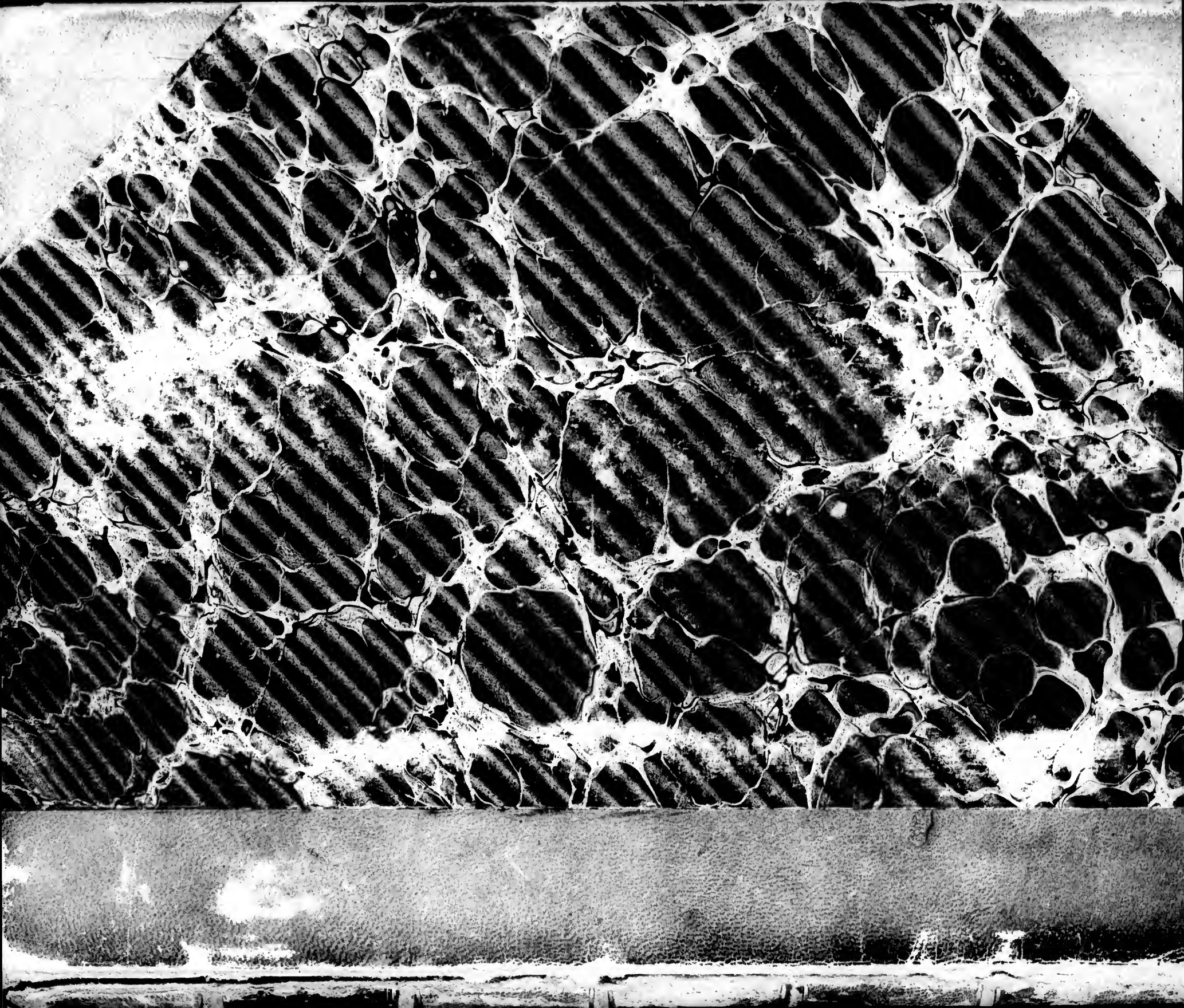
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AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, January 1, 1848.

THE RAILROAD JOURNAL.

Having been frequently advised, by those who have long taken an interest in the success of the Journal, to give it a wider scope of usefulness, by including the *Iron* and *Mining* interest, as well as the Railroad interest, in its field of operations; and being now able to devote my entire attention to the Journal, I have concluded to give a portion of it to those subjects, and hope to be able to make it useful to them, without interfering with the great object for which it was established, and to which, for *fifteen* years, it has been devoted.

Being no longer engaged in other pursuits, my entire attention will be given to the Journal, and I *hope* to be able to visit, during the ensuing year, many of the principal Railroads and Iron Manufactories in the northern and middle States, and thus collect, from personal observation, much useful information.

Having entered upon another volume, and a New Year, I desire to tender to the readers of the Journal the compliments of the season, and ask of them their aid in extending its circulation.

D. K. MINOR.

Oregon, or Atlantic and Pacific Railroad.

When Mr. Whitney first advanced the idea of a railroad from the Mississippi—or Lake Michigan—to the Pacific, a few years ago, it was looked upon as a visionary scheme, and its construction as one of those things which might *possibly* occur half a century hence, certainly not sooner, if ever.

We have not, for many years, doubted the ultimate construction of a railroad from the Mississippi river to some point on the Pacific ocean—but, in our opinion, it was not then as *essential* to the prosperity and convenience, and wants of our own people, as many other railroads already commenced, projected, and required within the limits of the several States; therefore we have never entered with spirit into the advocacy of the project. Such, however, has been the progress of events, and the change of circumstances, in relation to the territory bordering on the Pacific, since Mr. Whitney's plans were first developed, that the project assumes, in our estimation, the importance, almost, of necessity, in the management of our own affairs, in addition to its importance in a commercial point of view with Asia; we therefore give, in this number, an able and interesting article, with *two* maps, prepared with great care by Mr. Whitney for DEBOW'S COMMERCIAL REVIEW, an excellent work published at New Orleans. From this article, and these maps, the relative merits of the different proposed routes may be pretty accurately estimated; and of the plan, so far as we understand it, proposed by Mr. Whitney, of providing the means to construct the road out of the public lands belonging to the people, we entirely approve, as we know of no use to which a portion of them can be more usefully applied—unless it be in aid of two or three important lines from the Mississippi to the Atlantic—a measure to which we shall call the attention of our readers at an early day.

The indomitable perseverance, and unwearying labors, of Mr. Whitney, in the cause of this—the greatest project of the age—entitles him to the success which he is *resolved to achieve*; and we bid him God-speed.

Reading Railroad and its Business in 1847.

The following statement, from the "Miners' Journal" of January 1st, 1848, shows, in small space, the result of the Anthracite coal trade of Pennsylvania for the past year. The increase of shipments from the Lehigh, Schuylkill, Lacawana, and the Wyoming regions, has been 620,698 tons over 1846—of this increase 352,392 tons were sent from the Schuylkill region. The total amount sent from the Schuylkill region in 1847 is stated at 1,648,320. Should the *increase* for 1848 equal that of 1847—and it will probably exceed it by over fifty thousand tons—there will be 650,000 tons for the canal, and 1,350,000 for the railroad; and in 1849 there will be 900,000 tons for the canal, and 1,550,000 tons for the railroad; and in 1850 there will be 1,150,000 for the canal, and 1,800,000 for the railroad; which at low rates of transportation would give the *shareholders* in each company a fair return, or over *nine* per cent., annual interest, on their investments, as follows,—

On the canal 1,150,000 tons at 60 cts. toll. $690,000
On the railroad 1,800,000 tons, at $1 25 cents freight..... 2,250,000

The $690,000 received by the navigation company, will give 6 per cent., on *six* millions of loan, and 9 per cent. on three millions of stock, and leave a balance of $60,000, and the entire tolls on all other articles transported to keep the canal in order, and make improvements. And the $2,250,000 received by the railroad company in 1850, for its coal business alone, will give $1,200,000 for expenses of repairs and working the road—6 per cent. interest on *nine* millions of loan, and *over* 12 per cent. dividend on *four* millions of stock—leaving the receipts from passengers, and ordinary freight—amounting to at least $200,000—as a surplus fund, to commence laying down a third track with.

With these prospects ahead we think the friends of *both* works ought to be content, and the managers ought to agree upon rates of toll and transportation mutually advantageous, and then let their strife be to see who shall give to the operators, and the shippers, the greatest facilities.

The statement referred to is as follows:

	1847.	1846.	Increase.
Schuylkill—railroad.	1,347,974	1,233,562	114,412
" canal.....	232,889	3,440	229,449
" Pinegrove..	67,457	58,926	8,531
	1,648,320	1,295,928	352,392
Lehigh Region.....	643,973	522,990	110,983
Lackawana.....	388,000	320,000	68,000
Wilkesbarre	284,398	192,503	91,895
Shamokin.....	no return.	12,572	
	2,964,691	2,343,903	
	2.343,993		
Increase in 1847,....	.620,698		

Post Routes in the U. S. in 1847.

The following synopsis of the post routes in the several states, has been compiled from the Postmaster General's annual report, for which we are indebted to the Baltimore American.

Length of Post Routes and Cost of Transportation of the Mail in the various States of the Union.—From sundry documents attached to the Postmaster General's report, the following table is extracted:

States.	Routes miles.	Total an. cost
Maine,	3,980	$41,964
N. Hampshire	2,267	25,560
Vermont	2,486	25,563
Massachusetts	3,478	107,393
Rhode Island	383	9,187
Connecticut	1,820	45,797
New York	13,292	229,307
New Jersey,	1,980	53,930
Pennsylvania	10,226	155,412
Delaware	549	7,862
Maryland	2,350	133,751
Virginia	10,783	192,615
N. Carolina,	7,423	172,520
S. Carolina	4,718	118,157
Georgia	5,761	153,001
Florida	2,958	45,193
Ohio	11,538	172,295
Michigan	4,255	38,211
Indiana	6,160	52,439
Illinois	8,276	102,485
Wisconsin	3,078	15,043
Iowa	1,631	9,722
Missouri,	7,897	49,720
Kentucky	7,705	89,581
Tennessee,	6,828	55,298
Alabama	6,553	136,495
Mississippi	4,117	58,451
Arkansas	4,637	39,966
Louisiana	3,208	41,795
Texas	2,766	24,102
Total	153,808	2,406,848
Mail agencies on railroads, steamboats, etc.		46,153
Total		$2,453,001

Kyanizing Timber for Railroads.

We have been often applied to, from different parts of the country, for information in relation to the process, and the benefits resulting from the process, of kyanizing timber for railroads—and we have always endeavored to give, in reply to such enquiries, all the information that we could obtain from reliable sources.

By referring to the Railroad Journal for November 13th, 1845, will be found a communication in relation to the experiments made on the New Bedford railroad, to which the writer of this article refers. There is another communication in the Journal of 3d January 1846, of much interest on the same subject; another at page 89, February 7th, 1846, and still another at page 410, or June 27th.

These communications all convey the same favorable impression of advantages to be derived from *Kyan's* process of preserving timber for railroads; and now we can add the following valuable article from a gentleman well known, especially among railroad men in New England, whose experience in the matter is probably equal to that of any other man in the United States; and we are greatly obliged to him for requesting the gentlemen to whom it was addressed, to allow us to use it; as it will answer many questions, that have been put to us, far more satisfactorily than we could possibly do it ourselves.

The communication is addressed to "*Messrs. Farr, Powers and Wightman,*" and is as follows:

NEWTON, MASS., Dec. 13, 1847.

GENTLEMEN,—In reply to your enquiries respecting my experience and process for kyanizing timber, I would say, that I have, during the past year, prepared about 60,000 cubic feet of Bridge and sleeper timber in this manner, for the Providence and Worcester railroad company.

The process, as you are aware, is simply steeping the timber in a solution of corosive sublimate, in tanks prepared for the purpose. I used two of these tanks for sleepers or ties, each of which was 20 feet long, 8 feet wide, and 6 deep; and one for bridge timber, 48 feet long, 5 wide, and 4 deep. These tanks were made of southern hard pine plank, three inches thick. It is necessary that they should be made of the best materials, and put together in the most perfect and workmanlike manner, or there will be danger of loss by leakage. For convenience in getting the timber in and out of the tanks, I placed them in a cellar, dug and stoned for the purpose, which was about four feet wider and six feet longer than the two tanks, which allowed a passage around and between them of about 2 ft. This cellar was about 3½ ft. deep, making the top of the tanks about 3 ft. above the ground. Upon the tops of these tanks, and resting partly upon each, was placed a small tank for dissolving the salt and preparing the liquor. This tank is 8 feet long, 4½ wide, and 3 deep, and capable of containing about the quantity of liquor necessary for filling one of the tanks after the timber was in. On one side of the cellar opposite the centre of the small tank, a well was dug and a pump placed therein, the nose of which was high enough to convey the water into the small tank. A pump was also placed in the corner of each of the tanks, for pumping out the liquor from the same into the small tank, when the process was completed.

In these tanks we prepared	48,178 cubic ft.
Of timber for sleepers or ties, and for bridges	13,445
Making a total of	61,623 feet.

For all this it required 1720 lbs. corrosive sublimate, a 1.21	$2081 20
Cost of tanks	981 37
Carting from depot to tanks	269 00
Cost of cellar, shed, well, pumps, etc.	293 88
Labor and superintendance	1,139 96
Total cost	$4,765 41

This makes the entire cost of kyanizing 7.73 per cubic foot, or 13.52 per sleeper, 7 feet long and 6 inches square. This is upon the assumption that the labor of hauling the bridge timber was no more than that of the sleepers; whereas the fact was that the labor of putting in and taking out this long, heavy timber cost in time, dericks, etc., at least double that of the sleepers. A suitable allowance for this difference would reduce the cost of sleepers to something less than 13 cents each.

Deducting the cost of tanks, pump, shed, cellar, etc., now on hand, and about as good as new, reduces the cost per cubic foot to 5.63 or 9.85 per sleeper, without any allowance for difference of labor for the bridge timber.

Kyan allows 2½ lbs. corrosive sublimate to 100 feet timber. I used 2.77lbs. He, however, recommends one pound to fifteen gallons water. I used one pound to fourteen gallons.

The bridge timber was pine, the ties hemlock and spruce. Hemlock delivered at Worcester cost about $11.50 per 1000 feet, board measure; spruce about $13.00. Estimating 47 sleepers to 1000 feet makes the first cost of hemlock ties 24.47 cts.; spruce 27.66; including kyanizing 37.47 and 40.66. Deducting cost of tanks, sheds, etc., 31.32 and 37.51. The cost of chestnut, the most approved kind of timber for this purpose, and most generally used in New England, varies from 30 to 40 cents each sleeper. It will be seen, therefore, that the cheap kinds of timber cost no more with, than chesnut without kyanizing. Our bridges also are left without covering, (the cost of which is probably greater than kyanizing,) and of course capable of sustaining a greater weight and more conveniently examined and kept in order.

One word as to the confidence which we have a right to repose in this process. Here I shall say nothing as to the fact that its theory is in conformity with the scund and well understood principles of science, or of the accounts we have of European experience, and of other experience in the United States. All this you are as well acquainted with as I am. In the summer of 1839, I prepared by this process about 2500 sleepers, which were placed under the rails of the Boston and Worcester railroad in September of that year. They were principally hemlock with some spruce; five inches square, and seven feet long. I have recently examined them thoroughly and have been unable to detect the slightest evidence of decay in any of them. The sap wood which forms a part of some of them is in all instances as sound as on the day when they were laid. In one instance I noticed a piece of bark adhering to the sap wood, as closely and in as sound a state as it ever was. In the next summer, 1840, ten miles of the New Bedford railroad (in the construction of which I had some agency,) was laid on sleepers prepared in the same manner. These sleepers, after an exposure of seven years, I have also very carefully examined and find them apparently as sound as they ever were. It is true that many of them have been taken up, but always on account of their having been checked and split so as to fail of holding the spike, a failing very common to both these kinds of timber; which I now think should be guarded against by adopting 7½ instead of 7 feet for the length of the sleeper, and by boring for the spike.

I send you herewith a block sawed from one of the sleepers laid upon the Boston and Worcester railroad eight years since. The top of this sleeper lay exposed to rain and sun during that time, the sides and bottom were under, or in the ground. You will notice that I have selected a piece which is partly sapwood.*

Some of the timber kyanized for the Providence and Worcester road was done last winter, and although the tanks were covered and kept warm enough to prevent the top liquor from freezing, yet, as the sap of the timber went into the tanks frozen, this ice in combination with the salt solution produced a degree of cold sufficient to freeze all the liquor (except that part of it which was at the top of the tank, and kept warm by the stove) into a solid mass. I have some apprehension that the process in these cases will prove less effectual, besides being much more laborious and expensive, as well as more wasteful. The thing ought not to be attempted in winter."

Having given the communication, we take the liberty, though unauthorized, to make the following extract from the letter accompanying it, with the name of the writer, who will be recognized as one of the early and very efficient friends of the Western and other Massachusetts railroads, and therefore his statements will be considered good authority for railroad companies to act upon. He says:

"The Western railroad company, in the construction and operation of which I was for nine years associated, who were the builders of the Pittsfield and North Adams railroad, a large number of the sleepers of which were kyanized—have just now determined to prepare 50,000 sleepers in this way for their second track. Governor Payne, President of the Vermont Central railroad, to whom I some time since communicated my views, informed me a day or two since that he had determined to adopt the process largely. Other companies are also

* This specimen may be seen at this office in a perfectly sound state.

enquiring, and scepticism is yielding, and chesnut timber becoming more scarce. * * * *

"I wish you to saw the block of kyanized wood which you will receive with this, into two pieces, and give the editor of the Railroad Journal one of them. Yours truly,

WILLIAM JACKSON.

Transportation of Troops, Munitions of War and the Mails, by the U. S. Government on the Railways of Companies.

The following communication is from a gentleman of enlarged views, close observation, and a thorough investigation of the operation and influences of railroads upon the great interests of the country; and we commend his views to the consideration of all who feel an interest in the progress and improvements of the age in which we live.

RAILWAYS AND THE POSTMASTER GENERAL.

The Law in the state of New York to fix compensation for carrying the U. S. Mails; English rates for mail service on Railroads, etc.

For the American Railroad Journal.

I am glad to find that the Journal has taken up the cause of the Richmond, Fredericksburg and Potomac Railroad, in the course pursued by the Postmaster General, in reference to the *comparative* service rendered by this road, and others, in carrying the present bulky mails; and the maximum compensation $237 50, or 25 per cent. over the old post coaches. Few there are that get this trifling recompense, for the valuable service performed.

There is a mass of prejudice and error in this country, particularly in high places, as to the ratio of "*just compensation*," to railways, for carrying the mails, and the service they are now, and will be hereafter, to the general government.

If I am not mistaken, this prejudice is the lingering influence of, and is fanned by the old stage contractors. They would compare their horses of flesh, and the average of 5 miles per hour, to the *iron horse*, and 20 to 30 miles per hour; the rate of speed now being introduced, by contract, on our thoroughfares, where they have laid down the heavy edge rail. The cuckoo song of stage contractors is "monopolizing monopoly, railway extortion," etc.; and we find this error echoed by the postmasters general, at Washington, for the last 10 years, and many others in high places, with the honorable exception of John C. Spencer, of this state, late Secretary of War, who has had the opportunity to see, and the liberality to acknowledge the advantages of railways, in carrying our increasing mails, and for military defence.

I agree that Congress shall have the *right* to use railways, for the conveyance of the United States mails; and I wil add, for the argument, that railways have *no right* to refuse to carry the mails: yet, in this country of laws, this right to use the railroads must be under salutary restrictions. A fair bargain on both sides, with a power to fix a just compensation in the several states. Then, when there is fault or default, in carrying the mails up to contract time, let the law and the press step in to right matters. Let us be cautious how we appoint "boards of commissioners," as lately called for by the New Haven Register, "to see that the roads are kept in order—enquire into all abuses of their charters—examine their general concerns, and see that the mails have every facility for rapid transmission and delivery."

If Connecticut, Virginia, and other states, will do as the state of New York has done, the general government will have all the right and privileges on railways they are entitled to.

In 1836, the writer had the pleasure and opportunity to aid the late and talented J. B. Yates to bring in "a *patern* bill," for the Attica and Buffalo railroad. (passed 3d of May, 1836.) It had in view, the especial protection of the rights of the people, and of the general government; also to force a "*just compensation*," to railways. This law was enacted to prevent their refusal to carry the U. S. mails. The 20th Sec. of the act referred to, was as follows:

"It shall be the duty of the said company, when applied to by the Postmaster General, to carry the mails of the United States, on the said road; and in case they shall not agree with him as to the rate of compensation therefor, and as to the time, manner, and condition of carrying the same, it shall be lawful for the Governor of this state (New York) to appoint three commissioners, who, or a majority of them, after fifteen days notice, in writing, to said company, shall fix and determine the prices, terms, and conditions aforesaid."

This law preserves the sovereignty of the state in the action of the Governor, to force an equitable compensation, and in my view, covers the ground completely. The great state of New York, with a liberal spirit that was commendable, has been the first to aid the general government to acquire the right to pass through and over this state, with her mails, by railways. This example should be followed by other states in the same spirit. And in a similar spirit, the general government should loose no time, while railways are weak, in debt, and paying poor dividends, particularly to the south and to the west, to pass some general law *to aid* railways. This should be done to carry out and complete the sea board line, with the rib railways over the Alleghenies, in the course of construction, through the same states, to St. Louis, and to the Lakes.

This can be done by a loan of the Bonds of the Post Office Department, to such railways as are completed, and can give security to perform mail service—such for instance as the Wilmington and Raleigh—say in amount equal to the capital, $6000 per mile, it will require, at 5 per cent., to pay the rate per mile per annum, the government is now disposed to pay on important routes. The consideration being the *perpetual* right, from the states, and their *local* corporations, to transport the mails, with such other privileges as may be agreed on. For instance, such as the transportation of troops and munitions of war, at fixed *low* rates for each soldier, and ton per mile. A general law to aid railways, through the bonds of the Post Office department, can be framed with security to the general government; beneficial to the revenue, and is highly important to secure a cheap and uniform rate of postage.

Laws in the several states to force these private incorporations to a compromise, in carrying the mails it would appear, is necessary; when we find a powerful canal and railway family influence, combine, in a neighboring state, to tax the U. S. government, and the travelling public, for the especial benefit of the state. On a main sea board line of railways, in fact a partnership concern, the state putting in no money, but yielding up the sovereignty for a paltry $30,000 or $40,000 per annum. This exhibit of state cupidity should be a beacon to the general government, to secure, in time, the consent of the several state legislatures, to a law giving the right to fix an equitable rate, or to force an agreement, with the several railways for their perpetual use, in carrying the mails and munitions of war.

Monarchial Great Britain, to carry out her *penny postage system*, where there is not one newspaper to our dozen, has seen it for her interest, early in the railway movement, to pursue a liberal course and to pay an equitable rate per mile per annum.

By a reference to the semi-annual English railroad reports in Herepath, and the other railway Journals you receive, you will find that the principal railways in England receive from the government, (and without cavil,) $600 to $700 per mile per annum.—

The lowest rates on their branch railways and short cross roads exceed, I believe $300 per mile per annum. This is the highest rate allowed by the Post master general, and then only on the main line between Washington and New York.

Here immense mails are transported, particularly about these days, at a rate per ton weight, that does not exceed that of "*parcels of merchandise*" paid to railways in Great Britain. A large portion of our railways are grudgingly paid $50 to $150 per mile per annum on important mail routes, with much official scolding done gratis. This is done without considering the service received, and that as an investment, (now upwards of $130,000,000— on more than 6000 miles of railway in operation in these United States,) that does not yet pay their enterprising projectors' (except in New England) legal interest. But for railways the present cheap system of postage (a blessing to all classes,) *could not have been successfully introduced.* With the sea board line completed from Maine to Texas, and the lines through the several states into the interior and to the Lakes, we can have our two cent postage, while our newspapers and periodicals can, as they should, *go free.* This will best ensure the continuance of our Republican institutions and "diffuse knowledge among men." It binds the Union, literally, in bands of iron, and its value cannot be estimated by dollars and cents.

The sum claimed by the Richmond, Fredericksburg and Potomac Railway Company for the service performed—ensuring *certainty* and *celerity*—the life of business, is cheap compared with the rates formerly paid on this route to the "Swift Sure" stage contractors. How does the average rates per mile per annum, in this country, compare with those of Great Britain? Let Major Hobbie, who has just returned from England and the Continent, enlighten us, Mr. Cave Johnson, and our thirtieth congress. They will find, or I am much mistaken, that for half the distance of miles of railways completed in England and Scotland, and on territory not to be compared with the state of New York; instead of these wide spread United States, double, if not treble, is paid per annum for mail service, to that now paid by our government, for the same period.

It will be an interesting enquiry. Will you ask our friend, E. Hedge, I believe now in England, to enlighten us on this subject, and oblige,

Yours truly, J. E. B.

Value of Railroad Stocks, and their Prospective Values in the U. S.

The following statement in relation to the Massachusetts railroads, during the past year, is highly gratifying to those engaged in the construction of new lines, as well as to those interested in the roads here named. The annual reports will show that the *earnings* of the numerous railroads, in the country, will greatly exceed that of the preceding year; and many people who had articles ready for market in the fall of 1846, after the close of *canal* navigation, will duly appreciate the value of railroads to the farmer. Another such demand, in winter, for the products of the soil would be sure to bring *millions* of capital from other investments in to the construction of railroads.

"The following semi-annual dividends, for the six months just ended or about to close, are announced:

Boston and Maine railroad, five per cent.

Boston and Worcester railroad, five per cent.

Fitchburg railroad, five per cent.

Western railroad, four per cent.

Lowel railroad, four per cent.

Eastern railroad, four per cent.

Boston and Providence railroad, four per cent.

Old Colony railroad, three per cent.

Fall River railroad, three per cent.

The receipts of the Western Road for the financial year, ending on the 1st of December, have been $1,318,000, showing an increase over last year of $365,000 or $1,000 per day, for every day in the year, Sundays and holydays included. This is $265,000 more than the estimate made at the last annual meeting of the Corporation. The increase last week was $11,000, and the business of the approaching season, after the close of navigation, promises to be much greater than ever before."

Commerce of the New York Canals in 1847.

The Albany Argus gives the following statement of the past years' business on the N. Y canals. It shows an extraordinary increase over the preceding year.

To those who recollect vividly the day, in 1817, when the first spade was put into the ground, officially, in its construction, near *thirty-one* years ago, and who recollect the predictions of intelligent men of that day, in relation to its ultimate completion, and the returns to be derived from it—this wonderful increase of receipts, on a rate of tolls reduced, at least, one half from what the original estimates were based upon— is highly interesting.

The amount of tonnage passing through the canal, during its *eight months* of navigation, was 1,995,933; and the value of that tonnage was $165,365,986; being over *six millions* of dollars greater than the entire exports of the United States, for the year, ending 1st of July, 1847.

"We have," says the Argus, "procured from the Canal Department some interesting items from the annual statement of the commerce of the canals of our state which we publish in advance of the full statement, which we hope to take place in a few days. The few items we give will, however, be found of much interest, embracing as they do the most prominent point of the annual statements.

The receipts of flour, wheat and corn, which we publish, embrace the deliveries at Albany and West Troy; those at Waterford, which will increase the aggregates to but a small extent, not having been received at the department.

1847.

	Flour, brls.	Wheat, bus.	Corn, bus.
Albany,	2,376,675	1,296,625	2,995,568
West Troy,	1,575,047	2,600,951	3,025,576
Total,	3,951,722	3,897,576	6,021,144

1846.

The receipts of the same article, for this year, we give in the aggregate, not having the deliveries at the two points separate.

Flour, bbls	3,663,441
Wheat, bush	2,950,636
Corn, bush	1,610,149

These aggregates exhibit an increase in the several articles as follows:

Flour, bbls	888,281
Wheat, bush	946,940
Corn, bush	4,410,995

These figures will be somewhat increased by the statement from Waterford, but not materially.

The number of boats navigating the canals and registered on the 1st of January, 1847, was 2725; since then there have been registered 1492 boats, making an aggregate of 4217 boats. Taking 80 feet as the average length of each boat registered since January 1, 1847, and it will be seen that 22 miles of boats have been added, and the tonnage increased 110,000 tons at least.

The increase of the property coming to tide water has of course increased the tonnage transported and the value of property moved.

The tonnage of the property delivered at West Troy and Albany this year, is 1,708,933 tons, being an increase of 346,614 tons over last year. A similar rate of increase applied to the property going from the Hudson would give the up tonnage at 287,000 tons. and an aggregate of 1,995,933 tons.

The value of the property delivered from the canals at Albany and West Troy. this year, is $72,365,885, an increase of $20,869,730 over the value of the property delivered at the same points last year. Assuming that the value of property cleared from the Hudson this year has increased in like proportion, its amount would be about $93,000,000.—This would give an aggregate of $165,365,986, an amount greater by $18,820,347 than the value of the entire imports into the United States for the year ending July, 1847, and greater by 6,717,364 than the value of the entire exports."

Improved Manufacture of Rails.

We find the following article in relation to Mr. Thorneycroft's improved mode of manufacturing rails, in the London Mining Journal for June 12th. The editor of that useful Journal has examined the rails, broken to exhibit the condition of the bar when manufactured in the ordinary way, and by the improved mode, and the accompanying cuts are said to represent the condition of the iron. If the process of Mr. Thorneycroft will prevent the lamination or splintering of the rails, it is desirable that it should be introduced into all the rolling mills in this country, as well as in Europe, as this has been a source of serious anxiety to railroad companies. We shall look for further information in relation to it.

IMPROVEMENT IN THE MANUFACTURE OF RAILWAY RAILS.

Thorneycroft's Patent Anti-laminating Rail.

Among the difficulties which railway engineers have had to contend with, there has, perhaps, been none which has caused them greater anxiety than the lamination of the iron, of which the rails are formed, from their being piled and faggotted together, causing to splinter off on the face, on the passing of heavy trains, rendering them dangerous and useless in a short period after being laid down and entailing continual and heavy expenses. It has long been a subject of deep thought and serious consideration, how this lamination and splintering could be remedied; for as the traffic and the weight of the locomotive engine increases, the evil becomes still more serious, and alarming accidents have taken place from this cause.

Mr. Thorneycroft, of Wolverhampton, the eminent ironmaster, among many others, having been consulted on the subject, applied himself earnestly to its consideration and accomplishment; and, we are happp to say, has succeeded beyond his most sanguine expectations. Samples of the rails have been inspected by many of the most eminent railway and other engineers in the kingdom, all of whom have expressed their decided opinion of the complete success of the new manufacture.—One of them, a man of great eminence in his profession, having been to the works, and inspected the improved made of manufacture, pronounced it most simple and perfect, and the greatest improvement that has been made in the make of iron rails since railways have been known; and, to use his own words, "it must prove a great national benefit, and I hope the inventor will be amply rewarded for his trouble and enterprise." In the expression of this sentiment we most heartily concur.

We last week announced, in our list of patents, this invention; and we have since had an opportunity of closely inspecting parts of four rails, which had been broken to show the fracture of the iron at one end, while the other was polished, and an acid applied, showing all the laminæ, and every seam formed by the faggotting of the iron. The following diagrams will clearly show Mr. Thorneycroft's improvements:—

Fig. 1.

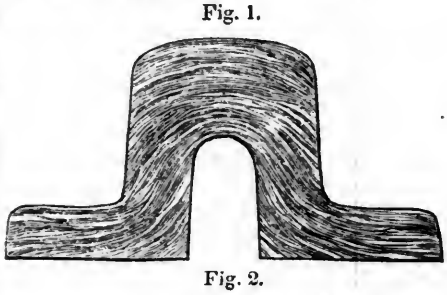


Fig. 2.

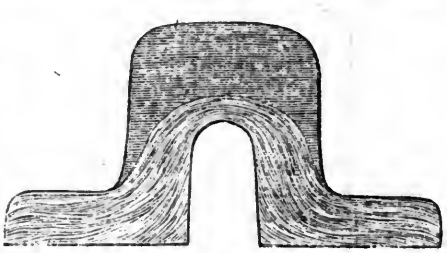


Fig. 1 represents a section of a rail manufactured on the old method, showing the lamination of the iron from top to bottom. Fig. 2 shows Mr. Thorneycroft's improvement, by which it will be seen that the part of the iron liable to wear away is *one perfect homogeneous body*, as much so as if it was cast-iron or cast-steel, still perfectly malleable as any other wrought or rolled iron, but, being jointless, is perfectly free from laminæ, and not liable to splinter off on the edges. We understand the rails are about to be laid down immediately at some of the principle stations on the larger lines, where the most severe trials will be given them. The inventor appears to be quite confident that the results will prove highly satisfactory; and, indeed,

in this there seems little difference of opinion among all who have inspected them—a few months, however, will decide, and, in the mean time, specimens may be inspected at our office.

We understand that Mr. Oliver Ames, of Falls Village, Connecticut, has patented a mode of manufacturing rails and tire, in which the "pile," or "faggot," is twisted before rolling, and by which operation the fibres of the iron are laid together like the strans of a rope, thereby preventing the mischief arising from lamination, as is intended by Mr. Thorneycroft in his plan above described; and we understand that the expense of giving the *twist* is so trifling, when the machinery is prepared, that it will cost very little more than when made in the ordinary way. We hope, ere long, to have a full description of this process of manufacture for publication.

Railroads in the West.

We find the following in the Chicago Democrat of Dec. 2d, in relation to the railroad projects in the West. It alludes, however, only to a part of those now in course of construction, and about to be commenced.

We have recently met with two of our friends, of the profession, going westward to take charge of works, one in Illinois and one in Indiana. That in Illinois, the Springfield, Jacksonville and Meredosia road has been purchased by a company in New York and eastward, and is to be under the charge of Mr. J. E. SHIPMAN, of New York; and that in Indiana, from Indianapolis to La Fayette, and thence on to the Lake, to connect with the road from Chicago to Detroit, and to Toledo, is, we understand, to be in charge of Mr. A. C. TWINING—both of whom have gone west to commence operations.

If these roads shall be constructed and brought into use within two or three years, others will also be undertaken, not enumerated in the following list:

The editor of the Democrat says:—"The gigantic railroad projects of the west, appear to move forward with rapid strides. The speculative time of 1836, projected the various routes, but it now remains for most of those routes which have since been looked upon as in a great degree chimerical, to be carried into operation. These roads will require a large amount of capital to complete them; but it may not be expected that all of them will be commenced upon immediately.

Commencing with the Canada road. If the two termini are made west, the capital required will be $6,000,000.

The road from Detroit to Port Huron, will require an expenditure of $700,000. Twenty miles of this line will be finished by July next.

The Michigan Central Road, now being completed, will expend at least $5,000,000, to connect with the Buffalo and Mississippi road, at the State line of Indiana.

Cost of the 65 miles of the Buffalo and Mississippi road from the junction of the Central road, to Chicago, $2,000,000. Cost of route from Chicago to Fox River, $500,000.

Road from Toledo, 67 miles to Indiana state line to intersect with Buffalo and Mississippi road, now let out to grade; estimated capital, $1,500,000.

The railway proposed, and which is to be carried into effect under charters from the states of Ohio, Indiana and Illinois, is to extend from a point opposite St. Louis, to Wheeling on the Ohio; passing over the route of the present national road, through Vandalia, Indianapolis and Columbia; the distance between St. Louis and Wheeling being 638 miles. Estimated cost at $20,000,000.

The road from Cario to the Illinois canal. The state has expended a million on this route and have recently abandoned it to a new company. It is supposed $2,000,000 more will complete it.

The several roads now building in Ohio, and to be commenced next spring, will require $3,000,000 more.

Here, then, is work laid out that will cost at least $42,000,000 at the West, to say nothing of sides lines, etc. The capital for them, however, does not equal the call of instalments for railroad purposes in England, during any two months within the past year At the east the projected lines will cost as much, if not more; so that in round numbers, $100,000,000 will be required to be expended the next three years in railways.

Of all those routes, we do not know of one which will cost so small in proportion to its length, or whose prospects of a remunerative return are as good, as the Galena and Chicago Union Railroad. Let this road be bu completed to Fox river, and it will add twenty-five per cent. to the value of real estate along its route, and for miles, in the interior, from its termination."

The Postmaster General and the Railroads again.

In the Journal for December 4th and 11th, we had something to say in relation to the disagreement between the Postmaster General and the Richmond, Fredericksburg and Potomac Railroad Company.—It is not, and has not been our wish or intention to evince a fault finding disposition, nor to take sides with one party against the other; but we consider the subject one of such *growing* importance, not only to the people, but also to the general government, as well as to the *railroad companies*—that we consider it the right of the Journal to speak freely in relation to it.

The object, for which we suppose the Post Office was established, was the *accommodation of the people*, and therefore the Postmaster General, the "*foreman*" of the department, to speak technically or professionally, ought to employ the best "journeymen" within his reach, to accomplish the object in view, and to pay a fair price for the service rendered; and especially to pay for speed and certainty, in the transportation of the most important mails in the country, rather than to send one of them by a circuitous route of *three hundred and fifty miles*, of dangerous winter navigation, in 25 to 30 hours, because he can get it done for $97.10 a mile!—amounting only to $34,000 per annum, instead of sending it by the *direct* route, *one hundred and thirty miles* in *ten hours*, at a cost of $260 per mile, and the annual cost of $32,252!!

But the best way to place the subject fairly before the public is to give the last letter of Mr. Cave Johnson, which, in our estimation, is in much the same spirit and style of the village pettifogger, in a justice's court, rather than like the dignified counsellor in the court of last resort, at Washington—and also the reply of Mr. Edward Robinson, president of the railroad company, arraigned by the P. M. General—and we ask for both of them a candid perusal.

We also give, in this number, a communication from an old and valued correspondent, who is perfectly conversant with the great and growing interests of the country, the value of railroads and canals in developing those interests; and the importance of railroads in the transportation of the mails, troops and munitions of war, and the transaction of business. His opinions and recommendations are entitled to consideration and respect; and we therefore devote much space, in this number, to the subject, as we intend to send it to gentlemen of intelligence and influence in different parts of the country, in the hope of drawing such attention to the subject as will ensure the adoption of measures to prevent similar controversies hereafter. All we ask of the department is to allow liberal rates for, and only in proportion to, *speed and punctuality*; and then to require of the companies a *thorough* compliance with their contracts.

The letter of the P. M. General is as follows:

POST OFFICE DEPARTMENT, Dec. 20, 1847.

SIR:—In answer to the inquiries made in your letter, which was received to late on Saturday evening for reply, I have the honor to state—

That the price to be paid the bay line is $34.000 per annum, a distance of 350 miles—being less than $100 per mile, for taking the great southern mail to Petersburg. and for the supply of Richmond. The two-horse carriage conveyance from this city to Richmond and back, for local supply, costs $13,000—making in all $47,000.

The service superseded by these contracts cost as follows:

The railroad and steamboat service from this to Richmond	$32,252 00
Local supply between Norfolk and Baltimore and Norfolk and Richmond	9,200 00
Balance of service on horse-routes discontinued	305 00
Service between Richmond and Petersburg, to be discontinued	5,818 48
	$47,575 48

Difference between the old and new service, $575 48.

The lowest sum demanded by the company from this to Richmond was	$32,252
The sum offered by the department was	29,480
Difference	2,772

The demand of the company was $22 50 per mile per annum upon the railroad, which is 75⅔ miles long—more than the department was authorized by the acts of Congress to pay. The cost of the substituted service was no doubt greatly increased by the short notice given me by the company of their determination to throw off the mails, and by the undue advantage taken in compelling me to make this change in the winter. The refusal of the department to make an illegal contract has, however, resulted in a small saving on the route itself; and in a very large one, when the whole railroad service in the United States is taken into consideration.—Had I made such a contract, regardless of the acts of Congress, of the settled adjudications of the department, and the uniform decisions of all my predecessors—of everything, indeed, but the dispensation of President Tyler in favor of this particular com-

pany—what other railroads in the United States could have been denied a similar violation of law in its behalf, and a similar increase of pay? Or are such favors to be conceded only to those whose roads are, fortunately, located near the seat of government? Or to those who are bold enough, if the law is not bent at their dictation, to suit their interests, to wage a war of destruction upon the accommodation and rights of the public? I may here remark, that it is confidently believed that there is no railroad in the service of the department that cannot show greater hardships in its mail arrangements as a reason for increase of compensation, than the Richmond company.

On this road, the service is performed in the day; the hours suit its way travel, the connexion of its trains, and its connexions with other roads. To what extent my yielding to its demand would have probably increased the cost of mail transportation on railroads throughout the United States, it is difficult to estimate; but it is easy to see that it would have broken down all legal restrictions, and deranged the system of compensation established under the law.

The time allowed the bay line for the delivery of the mail in Richmond is twenty-five hours—that is, from 11 o'clock, P. M., until 12 the next night. The local mails from this city to Richmond in two-horse carriages, by Fredericksburg, are twenty-three hours—that is, from 6 A. M. each day until 5 A. M., the next day.

The mail from Petersburg going south is to depart upon the arsiual of the boats, but not to delay later than 12 o'clock P. M., for their arrival. Under the former arrangement the mail departed at 9½, P. M., from Petersburg by the summer schedule, and 3½ P. M., by the winter. The delay in the departure from that place is, however, overcome by an engagement on the part of the contractors to expedite over their routes, so as to make the time of arrival at Charleston the same as on the summer schedule. It is confidently believed that, when the bay line is properly regulated, as it soon will be, the departure from Petersburg will be made at an earlier hour. The bay route does not furnish so satisfactory service as the Richmond railroad. But I was obliged by the Richmond Railroad Company itself to place the great southern mail on some other route. They refused, utterly, to take it over their road from and after the 10th of December, unless I would make with them an illegal contract—unless I would stipulate to pay them a compensation forbidden by law.

The exacting spirit of monopolies could not display itself in a more despotic form than is exhibited in this case. The opinion of the officer, whose duty it is by law to interpret as well as execute this law—the decisons of his four immediate predecessors, sanctioned and confirmed as they were by the acts of 1839 and 1845, and acquiesced in by this very company from 1839 to 1843, are all set aside and disregarded, and the sum of $2,772 more than could be paid insisted on before the public could be accommodated.—And this is followed up by a refusal even to continue the service at the very high price offered—for the accommodation and convenience of the very people who gave existence to the corporation, and who are so deeply interested in its successful management, until Congress could review the law, and settle its construction.

So anxious was I to have the service continued on that road, that I not only offered them the maximum price ($237 50 per mile) for single daily service, but I consented, upon the application of others, to permit the service to be continued, without contract, as had been the case for many months before, so as to give the company time to apply to Congress for an exposition of the laws, or for an increase of pay; but this was declined by their president. The service on this road is once a day. The service between this city and New York is twice daily, and the pay averages 150 dollars per mile per annum, and for single daily service. For the service on the roads between New York and Boston, and Albany and Buffalo, the pay averages less than 100 dollars per mile. On other roads, less favorably circumstanced, having heavy mails to convey, and but little travel, and compelled to perform the whole service in the night, the sum of $287 50 per mile is the highest price paid for single daily service. When these circumstances are considered, if there had been no legal restrictions on railroad pay, I can see no justification for giving a higher price for mail transportation over the Richmond road. Nor can I readily believe that the citizens of Virginia themselves, owning, as I understand, two-fifths of the stock of this road, would jusify me in yielding to the exactions of this company a greater price than is paid on the roads in the other States of the Unios.

I am, respectfully, your obedient servant.

C. Johnson.

Hon. W. L. Goggin,
Chairman Com. P. O. and P. Roads.

In reply to Mr. Johnson's letter which appeared in the Union of the 20th, the following appeared in the same paper on the 22d.

We ask attention to the reflection of Mr. Johnson, against the company, when speaking of "*the short notice given me by the company of their determination to throw off the mails, and by the undue advantage taken*," &c., and then to Mr. Robinson's statement in relation to the same point, in the 4th paragraph of the following letter.

To the Editor of the Union:

Brown's Hotel, Washington city,
December 22, 1847.

Sir: In your paper of yesterday I observe that the Postmaster General makes out a strong case in behalf of the department against the steamboat and railroad companies between Washington and Richmond; but I believe that you have lived long enough to know that, more frequently than otherwise, there are two sides to a case, and that the worse may often appear the better cause, if an advocate is allowed to stray from the facts and abandon the record.

The facts of the present case are simply these: In 1843 there existed, under a joint resolution of Congress, a contract between the steamboat company and the department for the transportation of the mail between Washington and Aquia creek at the rate of $12,752 per annum, to continue until 1st July, 1847. At the same time, there being no contract, and none likely to be made between the railroad company and the department, Mr. Tyler, then President, was selected by the parties to arbitrate the matter. His decision gave the company the sum of $19,500 (about $260 per mile) for the transportation of the mails one year between Acquia creek and Richmond. At the expiration of this term—say on the 1st July, 1844—the mail was continued on the route for the same compensation, and was so continued until 1st July last, when proposals were issued for the service between Washington and Richmond. At this letting, a bid was made by the railroad company for the entire route from Washington to Richmond, of $36,500 per annum; and, although no other offer came from any quarter, it was rejected by the department. A proposition was then made by the same company, that, at the mutual pleasure of both parties, the mail should be continued on the route for the compensation previously paid, which amounted to the sum of $32,252 in all, per annum, which sum will show a surplus of but $1,377 over what the route of 130 miles, (nearly 131 miles,) at $237 50 per mile, would amount to, and which surplus is not sufficient to defray the expense of transporting the mail when delivered in Washington, Alexandria, Fredericksburg, and Richmond. This proposition was likewise rejected by the Postmaster General, who insisted upon the sum of $2,985 less than the amount named.

Under the impression that the opinion of eminent legal gentlemen, entertained in common with the first officers of the government, when maturely considered by the Postmaster General, might induce him to reconsider his decision, and anxious to avoid the inconvenience and disorder which would result to the department by a contrary course, the companies proposed to continue the service, and rely on the justice of the department to award them a fair compensation.

Finding, at the expiration of one quarter, that the views of the Postmaster General had undergone no change, and unwilling to encounter the expenses incident to a continuance of their service at the most expensive season of the year, when to the hazards of night service on the river were to be added the expenses of an extra train on the railroad portion of the route, the directors unanimously resolved no longer to continue the transportation of the mail after 10th December following. This decision was made known to the Postmaster General early in October, though no formal notice thereof was given until the twenty-sixth; because the Postmaster General had stated that a notice of ten or twenty days only was neaessary to enable him to perfect other arrangements.

With what reason, then, can the Postmaster General find fault with the course of the

companies? He was aware of their dissatisfaction with his views of the laws which related to their compensation; and knowing that reliance was felt upon a change of his opinion, it was his duty, when certain that that opinion would undergo no change, to take such course as seemed to him best under the circumstances, and not rely upon the continuance of service liable any moment to disruption. The impression has gone abroad, that the companies on the route exact not only an illegal compensation, but one greatly exceeding a fair proportion for the use of their route.

In regard to the first objection, no lawyer, whose opinion is worth much, has yet been found to concur with the Postmaster General in his construction of the laws which relate to railroad and steamboat compensation for mail service; and, as regards the latter impression, I need only refer any disinterested mind to the peculiar characteristics of the steamboat and rail route between Washington and Richmond to satisfy such, that if the maximum of the law, "$300 *per mile for one or more daily mails*," is allowed the companies, it will not realize to the stockholders that fair and just proportion of their income which ought to be expected from the government.

In the first place, the largest daily mail in the United States is taken both ways over it. It traverses a country which offers but little support in the way of local travel or freight, and that little which is derived from the steamboat portion of the route is almost totally surrendered to the necessity of a rapid transportation of the mail. It saves to the department 15 hours beyond any route, or mode of transportation, which it can adopt, and thus will be enabled, in the absence of any contract for the mail, to obtain, through the transportation of express packages, (which are fast taking the place of the mails,) a compensation more than equivalent to any income which can reasonably be expected at the hands of the department. Finally, the service performed for the department is equal to one-third of the whole service done on the route; for the fact of no freight being transported on the steamboat portion of the route, none between Acquia creek and Fredericksburg, and but one train per week between Fredericksburg and Richmond, makes it necessary to look to the transportation of the mail and passengers almost entirely for the expenses of the route, and a very moderate dividend for the stockholders. Of this service the department has received a proportion of one-third, whilst the compensation received from it is not one-tenth of the income on the route.

I am pleased that the merits of railroad service, in connexion with the government, have a fair chance of being canvassed by the public. The great benefits which have resulted from a reduced system of postage are, I believe, now generally acknowledged, as well in this country as in Great Britain. In both countries the reformation has been simultaneous. Can any one doubt that this immense tax, under which the public so long groaned, would ever have been lightened, but for the aid of railroads? Certainly not, so far as our widely-extended country is concerned. What is the result to the revenues of the Post Office Department? A largely increased income, and the flattering hope, advanced by the Postmoster General, that the period is not distant when a further reduction may be expected of that tax which now weighs but as a feather on the community. To the railroads of the country, and to no other cause, can these incalculable benefits be traced. They have been able and efficient agents in the greatest reformation of the age; and, like all reformers, have met but scoffs and derision. No portion of the vast good which has accrued through their means to the department has enured to them; for their compensation has not increased one cent, whilst their labors have been quadrupled.

Is it, to say the least, poli-ic on the part of the government, under such circumstances, to ask or receive of the companies, engaged in the transportation of the great mails of the country, an ungracious service? Is it not rather best to encourage, by liberal laws upon the subject, the construction of important railroads, the cost of which (as Mr. Spencer, formerly Secretary of War, so justly remarked, in his report to Congress) "is as much actually added to the defensive means of the nation, without any expense to the general government."

I cannot conclude without some reference to the *balance sheet* of the Postmaster General, attached to his statement of yesterday. To make up the sum which is requisite to show that for service fifteen hours longer than the old, he pays no more, the mail-pay for the route between Richmond and Petersburg, (never yet stopped) is abstracted, without the information on his part as to how this mail is to be transported in future, or whether it is to be taken between the two places at all. The latter idea is the most plausible, as a northern editor has already advanced the opinion that Mr. Johnson expects to reduce the cost of mail transportation by breaking up the mail-routes of the country to an equal extent. Mr. Johnson's mode of getting more mail service for reduced pay, is strongly exemplified in his contract by the Bay, where he expects to obtain 350 miles by water for the same money which obtained for him only 150 by land.

I shall now conclude with the remark, that the directors of the companies between Washington and Richmond, having carefully weighed this matter, have, on consultation with a majority of their stockholders, (among which is the State of Virginia. through her board of public works,) resolved, unanimously, that they will no longer furnish increased service for diminished pay; and doubt not, when the public learn, as they now do, that the companies were willing to continue their service till a reasonable time, in view of the action of Congress, provided the Postmaster General had been willing to apply for an explanation of the laws on the subject, that the public voice will sustain them in the course which they avhe thought proper to pursue.

I remain, very respectfully,
E.D. ROBINSON,
President Richmond, Fredericksburg, and Potomac Railroad Company.

Intercommunication between the Atlantic and Pacific Oceans.

DEAR SIR.—An article in your estimable Review for July, from Professor Forshey, of Louisiana, on the subject of a railroad to the Pacific, seems to call for some remarks from me, as it directly alludes to and compares my project with one for a more southern route.

When I first gave my undivided attention to the subject of a communication across our continent, and long before my proposition of 1844 was made public, I examined the whole continent, as far as its topography was known, from Panama to the Arctic ocean.

First. It appeared that the more narrow points, the shortest distance across, would be the most desirable, therefore Panama and all the Isthmus of Mexico claimed my attention. The first object in such a work being to change the route for the commerce of Europe with Asia so as to benefit ourselves, on examination, I found it could not be done here: because, if a ship canal were constructed *anywhere* it could only be done by a tunnel through from ocean to ocean, the practicability of which is very doubtful, and under any circumstances at an enormous expenditure, probably doubling any, the highest estimate yet made. A railroad could not answer, because there is not sufficient water on either side, nor on the entire Gulf coast, to form suitable harbors for ports of depot; because the mountain torrents in the rainy season would be likely to sweep away the work or render it useless; because the climate is such that population could not be sustained either to build the work or to carry on the commerce, make the transhipments, etc., etc.; because the expenses of such commerce would be greatly increased beyond what they now are, and because the time and distance would be increased, as, for instance, take the proposed canal at Nicaragua:

From London to Valparasia, through the proposed canal to Realijo	5.478	miles.
Thence to Valparaiso	3.500	"
	8,978	"
From London to Valparaiso around the Cape	9,400	"
Difference in favor of canal, which would not change route	422	"
From Sidney to England, via proposed canal	14,848	"
From Sidney to England, via Cape Horn	13,848	"
Against canal	1,000	"
From Canton to England, via canal S. W. M,	15,558	"
From Canton to England, via Cape Good Hope	14,940	"
Against canal	618	"
From London to Singapore, via canal N.E. M	16,578	"
From London to Singapore, via Cape Good Hope	14,350	"
Against canal	2,228	"

Comment is unnecessary.

This abandoned, I followed up the continent. I did not consider the difficulties of getting a right of way through Mexico as an impediment, because interest always governs; but I have not yet been able to find any place for a route on all the continent, above the Isthmus and below 42½° north latitude, where a passage can be had short of an elevation of about 12,000 feet, and I did and do consider any route off from our territory an insurmountable objection. Any southern route must be subject to almost or quite insurmountable difficulties, from immense soft bottom lands, impossibility of bridging streams, and the constant yearly flooding of the Rio Grand and all the streams to be crossed, which would destroy any railroad and its operation.

These are difficulties which must stare any engineer full in the face, and there is no way to overcome them. Then, as to climate, the same insurmountable difficulties as across the Isthmus. Can commerce be carried on through Louisiana and Texas, except in the winter months? and would Mazatlan, 23½° north latitude, worse even than at 7° or 10° in climate, from its position and country,* answer for the great emporium for *all* the commerce of Europe with all Asia? And can our animal and vegetable products be carried in safety through such a climate? Could we by such a route expect to avail ourselves of the vast markets of Japan, of China and of all Asia, which would be opened to us by a proper route across our continent? My own experience in such climates tells me we could not; and the distance from Europe could not be shortened by this route sufficiently to force a change, as will be seen—

From London to Charleston, 80 degrees long, each 47 miles	3,760 miles.
From Charleston to Mazatlan, Mr. Forshey's route	2,170 "
From Mazatlan to Canton, 140 degrees long, which on this parallel of the globe with currents and trades, may be estimated at 60 miles each,	8,400 "
	14,330

Subject, certainly, to no less than 1 cent per ton weight per mile, on 2,170 miles, is $21 70 or $10 85 per ton measurement of teas, or the like merchandise; subject to transhipment at Charleston, transhipment or ferriage across the Mississippi, the Rio Grand, and other streams which cannot be bridged, and we see we gain in distance from Canton to London only 610 miles. Comment is unnecessary here.

I have examined this subject and devoted myself to this object, not for a Northern or Southern route, not for New Orleans or New York, Boston or Charleston; not for any place or city, but for the whole United States—for *all*, from the Pacific to the Atlantic, and from the Gulf to Maine. My object has been to find a route, the means for accomplishing which should be produced by itself—a route which, by shortening distance and time, lessening expense, affording facilities for commerce and intercourse, would give us the entire control of the commerce of Europe with all Asia, and increase our own far beyond the power of the imagination to estimate, and at the same time spread and distribute its vast, its incalculable benefits, over every section and interest of our widespread republic; and I think an impartial examination of the subject, in all its bearings, will plainly show that I have not failed. I base all my calculations upon the only possible means, the wilderness land, by which the work can be accomplished at all on any route; therefore, the route must be where the road can bring into life and action this *only* means; and the route which circumstances forced me to select is the only route which will do so.

From Lake Michigan to the pass in the Rocky mountains, as will be seen by the accompanying map, No. 1, is unquestionably the best and most feasible route for a railroad on the face of the globe—without rock, mountain, or even hill; no wide, soft bottom lands, no streams which cannot be bridged, and no flooding of the streams to destroy the road or impede its operation; one half this distance the route is parallel with and between rivers, and does not require a single bridge—the whole distance on a regular gradual ascent, a great part of which not over 6 feet per mile, and no one mile over 25 feet. From the pass to the ocean, from the scale of elevations taken daily by Col. Fremont, it will be seen that the route is not a difficult or expensive one. It would seem that the God of nature had fixed this as the route. As the Red sea in olden times, so here the mountains are opened for our passage, that we may carry light, life and liberty to the darkness and heathenism of all Asia; and the same God who commanded the Israel of old has pointed out to us, the young Israel, the way, given us the means to accomplish his great purpose, and shown that we are his instruments to encircle the globe with the spirit of life and truth. The application of man's labor with a rich reward, will bring forth and accomplish all.

It will be seen by the accompanying map, No. 2, that on this line, this belt of the globe, are nearly all the population and commerce of the world—the most genial climes and fertile soils—producing the greatest amount of breadstuffs and meat, the sustenance of both man and commerce; and by examination of the map it will be seen that this is the most central, most convenient and accessible to all the Atlantic and gulf cities; the southern cities have advantage in distance—Philadelphia 100 miles nearer than New York; Baltimore 100 miles nearer than Philadelphia; Richmond nearer than either; Charleston nearer than New York, and New Orleans in a line by which a railroad can be built not 800 miles from it. And we now see all the states, from the gulf to Maine, pushing with all possible force *all* their roads to this very point, in order each to share in the rich commerce of that immense population which is to occupy those incomparably rich and overwhelmingly productive states north and west of the Ohio river.

South Carolina, Georgia, and Tennessee are straining every nerve to approach the mouth of the Ohio. Virginia yet slumbers, but she will awaken to the rich prize within her reach, and push on to Cincinnati. Baltimore, impatient for the race, will not be checked even by the mountain barriers, but leaps on to Wheeling, the first to take the purse. Nor will Philadelphia or New York be inactive; on, onward, is the cry of all for the rich prize beyond the mountains. And if such be the inducement now, what may we expect when the great highway of nations is before them all, from which each must receive its proper share of all the commerce—all the wealth of the world? At the same time there will be brought into life and use an immense country—the richest and best on the globe—embraced within the routes from each Atlantic city, and from ocean to ocean, as will be seen by the annexed map, No. 2. Our vast republic will be brought to the grand centre in two and a half days, and the entire world to the same centre in twenty-five days: making the distance from any Atlantic city to Oregon or California not over 3,000 miles—at 30 miles per hour, requiring less than five days; thence to Japan, but 4,000 miles, by steam, but fourteen days; to Shang-hai in China, at the mouth of the great Yang-tse-Keang, which at a short distance from its mouth crosses the great canal to Pekin, and where all the commerce of this vast empire of 500,000,000 souls now centres, and where all its foreign commerce must centre, when this route is opened, would be from New York but 8,400 miles, requiring 24 days; to Australia, 9,000 miles, requiring 26½ days; to Singapore, where all the commerce of Europe with India would centre, with this route open, is but 10,660 miles, requiring but 29½ days; and all this commerce and intercourse by this route might be carried on by steam, because there is an abundance of coal at Vancouver's Island, at Japan, China as low as Formosa, and the high latitudes of Australia, and the distances from point to point are within the capacity of a vessel to carry fuel, which could not be done from Mazatlan or the Isthmus. The commerce and intercourse from this route with all Asia, and even to Africa, may be carried on along the coast, never ought of sight of land. What a prospect, what a glorious prospect! Very soon the various lines of steamers from the Oregon to Japan, to China, to all the islands, and to all Asia, would far outnumber those of any of the Atlantic cities of the present day.

In Mr. Forshey's 1st comparison, he says: "Connection between the Pacific and Atlantic at any of the points named, Memphis or South, will answer all the purposes for the entire valley, as the navigation to and from these points is never intercepted." In this I cannot agree with him; the Ohio certainly drains a very important part of that valley. The Herald of the 3d inst. says, navigation of the Ohio river was,

* Its coast is subject to periodical gales, so severe as to render it extremely dangerous, if not impossible, of access, at certain times.

This Map shews the position of our Continent as compared with Europe and Afrira on one side and Asia on the other, placing us in the centre. Europe 3000 miles from us with a population of 250.000.000. and Asia on the other side about 5000 miles from us with a population of more than 700.000.000 The Rail Road across our Continent will make us the centre and thoroughfare for both.

ARCTIC OCEAN

Baffins Bay

SIBERIA

Russian America

Hudsons Bay

Sea of Okotsk

Aleutian Islands

NORTH AMERICA

TARTARY

CHINESE EMPIRE

The population of Japan is estimated at not below 50.000.000 and as high as 250.000.000 its annual commerce estimated at $200.000.000

Vancouver I.

Columbia Riv.

Sea of Japan

NIPON

Islands of Japan

NORTH PACIFIC

San Francisco

UNITED STATES

Boston

New York

Philadelphia

Charleston

Savannah

TIBET

CHINA

Pekin

Hong Ho

Nankin

Chang Hae

Canton

Macao

Formosa

Hainan

Sea

HINDOOSTAN

Calcutta

Arabian Sea

Bay of Bengal

Ceylon

Philippine Islands

China Sea

Straits of Malacca

Sumatra

Singapore

Bornee

New Guinea

Ladrone Is.

Sandwich Islands

MEXICO

Gulf of Mexico

St Domingo

Jamaica

Bay of Panama

Friendly Islands

Low Islands

Society Islands

INDIAN OCEAN

AUSTRALIA

NEW ZEALAND

SOUTH PACIFIC

SOUTH AMERICA

Valparaiso

Buenos Ayres

Cape Horn

Falkland

Route to China

4200 4000 4000 5400 6300 6330 5340 2160 3840 1320 6920

Sailing distance around the Cape to New York or London estimated at more than 18000 miles

The population of China, from all authentic accounts, cannot be less than 500.000.000, all above the parallel of 22; so that China and Japan together contain more than half the population of all the world all between the parallels of 22 and 50, while the population of Europe, is we may say all above the parallel of 40, placing the population of all the world on nearly the same belt.

This Map was prepared by M.r Whitney for M.r Breese's report to the Senate, U. S. 29 Congress.

1236

№2

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Afrira on one side and Asia on the other, placing us
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and Asia on the other side about 5000 miles from us
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nent will make us the centre and thoroughfare for

Spitzbergen
Baffins Bay
Davis' Strait
Russian America
Mc Kenzie's R.
Behrings Strait
Hudson's Bay
Iceland
White Sea
Archangel
R. Dwina
G. of Bothnia
Aleutian Islands
NORTH AMERICA
Winnipeg
Vancouver I.
Columbia Riv.
4200
4000
4000
Missouri
Platte
Kansas
St. Louis
Ohio
Erie
Superior
Michigan
Huron
St. Lawrence
St. John
Halifax
Boston
New York
Philadelphia
UNITED STATES
PACIFIC
San Francisco
Arkansas
Canadian
Red
Colorado
Gila
Rio Grande del Norte
Charleston
Savannah
Bermudas
New Orleans
MEXICO
Gulf of Mexico
St. Domingo
Jamaica
Sandwich Islands
NORTH ATLANTIC
Azores
Madeira
Canary Is
Cape Verd Is
Strait of Gibralta
Algiers
Mediterranean Sea
Tagus
Paris
Seine
Loire
Vienna
Danube
Constantinople
Black Sea
Caspian Sea
PERSIA
ARABIA
Persian G.
Red Sea
Baltic Sea
Elbe
Berlin
Vistula
Prussia
Poland
Russia
Moscow
R. Volga
Dnieper
Odessa
Kiew
Ireland
Scotland
Sweden
Norway
EUROPE
AFRICA
Bay of Panama
Pernambuco
Ascension
St. Helena
Rio Janeiro
MADAGASCAR
Valparaiso
Buenos Ayres
SOUTH AMERICA
SOUTH PACIFIC
SOUTH ATLANTIC
Cape of Good Hope
Falkland Is.
I. Georgia
Cape Horn
Low Islands
Society Islands

The population of China, from all authentic accounts, cannot be less than 500 000.000, all above the parallel of 22; so that China and Japan together contain more than half the population of all the world all between the parallels of 22 and 50, while the population of Europe, as we may say all above the parallel of 40, placing the population of all the world on nearly the same belt.

This Map was prepared by Mr Whitney for Mr Breese's report to the Senate, U. S. 29 Congress.

Miller's Lith. 107 Broadway, N.Y.

1838

Mr Whitney's route is to commence somewhere between Green Bay & Milwaukie, cross the river near Prairie du Chein, follow nearly the line on this Map to the Pass, thence to Oregon or San Francisco, as may be most desirable.

OREGON

COLUMBIA R.

Fort Vancouver

Fort Wallawalla.

Fort Boise.

Fort Hall.

Fort Laramie.

Council Bluffs

Fort St Vrains Fort

Santafee.

Fort Gibson.

Fort Smelling

Falls of St Anthony

Lakes of the Sioux

Prairie Ducks

Iowa City

Des Moines

Bloomington

St Josephs.

Chicago

Springfield

Indianapolis

Louisville.

Cincinnati

Columbus.

Buffalo.

Albany

Portland

Boston

Providence

Hartford

Worcester

Lowell

Concord

Manchester

Portsmouth

Augusta

Norfolk.

Richmond.

Washington.

Nashville

Knoxville

Memphis

Little Rock

Vicksburg

Jackson

Natchez

Montgomery

Mobile

Pensacola

St Francisville

New Orleans

Galveston.

Matamoras.

Corpus Christi.

Brazos Santiago.

Monterey

Matamoras.

Rio de Tigre.

Presidio de Rio Grande

Rio Grande

Alamo

Chihuahua.

Paseos R.

Puerco R.

Rio Colorado

Pass del Norte.

Sierra Madre

Sierra Verde

Sierra Nevada

Colorado of the West

Gila R.

Great Salt Lake

Yellow Stone R.

Missouri R.

Platte R.

Arkansas R.

Kansas R.

Red River

Mississippi R.

St Lawrence R.

Lake Superior

Lake Michigan

Lake Huron

Lake Erie

Lake Ontario

Vermont

New-York

Pennsylvania

Ohio

Kentucky

Tennessee

Virginia

North Carolina

South Carolina

Georgia

Alabama

Florida

Texas

Mexico

Gulf of California

Gulf of Mexico

Atlantic Ocean

Pacific Ocean

Rail Roads Finished ——— ——

do . do. Unfinished ——— ——

do . do. Proposed ———

Zacatecas to Mexico 390 Miles.

Tropic of Cancer, Lat. of Canton China and Sandwich Islands.

This Map was prepared by Mr W. & published with his memorial to the Senate in first Sess. 29th Congress.

Drawn and Engraved by A. Thresp Washington.

Places.	Time.	State of Water.
Louisville.....	August 29....	4 feet 3 inch. falling.
Wheeling.....	September 1...	3 " 6 " "
Pittsburgh.....	" 1...	3 " "
Cincinnati.....	August 25....	4 " "

and we believe it is well known that the falling continues through the autumn, with no expectation of any material improvement till February; that the water is often much lower than at present—it has been represented to me as low as 15 inches. Now we all know that at the present stage navigation is rendered difficult and expensive, and not equal to the wants of the country. Surely the Mississippi, from the Ohio to St. Louis, even, cannot be considered equal to answer all the purposes wanted; and as we ascend either the Mississippi or Missouri the difficulties increase, so that for the greater part of the year these streams may be considered useless. These are facts known to all who are acquainted with the commerce and intercourse of that great valley, and that the streams generally are now used as a matter of prime necessity, but so soon as the means can be obtained, they will be abandoned for railroads.

Mr. Forshey in his 2d comparison says: "That from the Mississippi, where he proposes his terminus, to Mazatlan, is not more than 1,500 miles; whereas Mr. Whitney's route is 900 miles greater." Now let us see if this be so; first we should ascertain where we set out from to get to Mr. Forshey's starting point on the Mississippi, and from thence where to go.

First I will correct some errors which have been published to the world, which appear in Mr. Breese's report, and have originated from my having taken the various estimates of different travellers without calculation or approach to certainty. In Mr. Breese's report the distance from the lake to the ocean is estimated at 2,630 miles, and from the lake to the Atlantic estimated at 1,000 miles; while we find the city of New York in the meridian of 74° west from Greenwich, and the mouth of the Columbia 124°, giving 50° of longitude from point to point, which on this parallel do not measure over 47 miles to the degree, making from ocean to ocean only 2,350 miles. From the measurement and calculations of Mr. Darby, so well known and justly celebrated for his calculations and statistics, it appears that on the curve of 30° north latitude, starting near St. Augustine, over New Orleans, Louisiana and Texas, over Sonora and to the Pacific, at or near Cape Gonzalo, is a range of 35° of longitude, which in that latitude, he says, equals nearly 2,100 statute miles; on the curve of 35° north latitude commencing near Ocracock inlet, south of Cape Hatteras, through North and South Carolina, through Georgia, Alabama and Mississippi, to the river about 10 miles south of Memphis, thence about 100 miles below Santa Fe, and over the spine of the Rocky mountains to the Pacific, near Cape Guadaloupe, over a range of 46° of longitude, which in that latitude is equal to 2,542 statute miles; on the curve of 40° north latitude, commencing at Tom's river, Monmouth county, New Jersey, passing near Philadelphia, Wheeling, Virginia, Columbus, Ohio, through Indiana, northern part of Missouri, then over the chain of the Rocky mountains to the Pacific, near Cape Mendacino, through 51° of longitude, equal in that latitude is nearly 2,700 statute miles. Again, on the curve of 45° north latitude, near the mouth of the River St. Mary, Nova Scotia, through Maine, New Hampshire, Upper Canada, Michigan, Iowa, and on over the Rocky mountains to the Pacific, south of the Columbia river, a range of 63° of longitude, which in that latitude is equal to a little over 3,000 statute miles.

I will now show the distances from the different Atlantic cities to Prarie du Chien, where the Pacific road would probably cross the Mississippi, and where all would join it.

First, from New York to Lake Erie, 78½° W. long., as per railroad report.	488 miles.
Thence to Prairie du Chien, W. long. 90½°, is 12° long.; but add 2° for detour, and it is 14° long	653 "
	1,141 "
And Boston would be 200 miles more, and Philadelphia 100 miles less distant; and Baltimore, as per railroad report, to Wheeling	384 "
Thence to Prairie du Chien on nearly a direct line, but allow for detour, etc., say	564 "
	948 "
From Charleston to Chattanooga	430 "
Thence to Natchez, Mr. J. E. Thomson's survey	152 "
Thence to the Ohio, 100; but add 15 for detour	115 "
Thence to Prairie du Chien on a line.	370
Add for detour, etc.	30—400 "
	1,097 "
From New Orleans on a line, 13° latitude, at 60 miles, is	780 "
But add for detour	50 "
	830 "
Now, from Prairie du Chien, 90½° W. long., to the pass in the Rocky mountains, 109½° W. long., is 19° long., each 47 miles	890
Here a road may be constructed in a straight line, but allow for detour.	50—940 "
From the Pass to the Pacific, long, 124° W., is 14½°, each 47 miles.	682
Allow for detour, etc.,	200—882 "
From Prairie du Chien to the ocean.	1,822 "
Thus, then, it appears that by the southern route it would be	
From Charleston to Vicksburg	771 "
Thence to Mazatlan	1,490 "
From Charleston to Mazatlan	2,261 "
Thence to China, 140° long., is	8,400 "
From Charleston to China, southern route	10,661 "
And by the northern route, as before stated,	
From Charleston to Prairie du Chien	4,097
Thence to Oregon	1,822
From Charleston to the Pacific.	2,919
Thence to China, 110½° long., on this parallel equal to	5,400
From Charleston to China, northern route	—8,319 "
Difference in favor of northern route	2,342 "

And the following table will show the distances from all the principal Atlantic cities and New Orleans to China by both routes:

A Table, exhibiting the Distances from all the principal Atlantic Cities (with New Orleans) to Charleston, to Vicksburg, to Mazatlan on the Pacific, and to China, for the southern route; and to Prairie du Chien (near where the Pacific road would cross the Mississippi), to Oregon, to the Pacific, and to China—with amount of difference both to the Pacific and to China.

	Southern Route.				Northern Route.			Dif. to Pac		
	To Charleston.	To Vicksburg.	To Mazatlan.	To China.	To Prairie du Chien.	To Oregon Pacific.	To China.	In favor of S. route.	In favor of N. route.	Difference to China in favor of N. route.
From Charleston	....	771	2,261	10,661	1,097	2,912	8,319	65	....	2,342
" Richmond	427	1,198	2,688	11,085	950	2,779	8,172	8	....	2,917
" Washington	551	1,325	2,815	11,215	988	2,810	8,210	....	5	3,005
" Baltimore	594	1,365	2,855	11,255	948	2,770	8,170	....	85	3,085
" Philadelphia	709	1,480	2,970	11,770	1,041	2,863	8,263	...	107	3,507
" New York	796	1,567	3,057	11,457	1,141	2,963	8,363	...	94	3,094
" Boston	996	1,767	3,257	11,657	1,341	3,163	8,563	...	94	3,094
" New Orleans	....	415	1,905	10,305	830	2,652	8,052	74	....	2,257
From Louisville	....	1,001	2,491	10,891	430	2,252	7,652	....	239	3,239
" Cincinnati	....	1,132	2,622	11,022	450	2,272	7,672	....	350	3,350
" Wheeling	....	1,496	2,986	11,386	560	2,382	7,782	....	604	3,604
" Pittsburg	....	1,588	3,078	11,478	610	2,432	7,832	....	646	3,646
" Cleveland, via Pittsburg	....	1,732	3,223	11,622	517	2,339	7,739	....	883	3,883
" Buffalo, via N. York	....	1,863	3,353	11,755	803	2,625	8,025	....	728	2,730
" Detroit	....	1,425	2,915	11,315	486	2,308	7,708	....	605	3,607
" St. Louis	....	803	2,293	10,693	300	2,122	7,522	....	171	3,171
" Alton	....	826	2,316	10,716	275	2,097	7,497	....	219	3,209
" Galena	....	1,208	2,698	11,098	60	1,882	7,282	....	816	3,816
" Chicago	....	1,070	2,560	10,960	210	2,032	7,432	....	528	3,528
" Prairie du Chien	....	1,279	2,761	11,161	....	1,822	7,222	....	939	3,993

And as the principal interior cities and states have a very important interest in the matter, let us show them exactly where they will stand; in order to do which, we will continue the table of comparison. And as Mr. Forshey says "they are suitable to all purposes," I will in most cases take the river distances for the southern; but as the building of the northern route will open railroad communication to almost all the places named, the railroad distance will be taken in most cases for that route.

Mr. Forshey says that at Vicksburg, or near it, would be the most convenient place to concentrate all the commerce for the Pacific, much more so than where it is proposed for the northern route to cross the Mississippi. By taking the distances as in the above table for the Atlantic cities, via Charleston to Vicksburg, and for the cities direct to Prairie du Chien, as proposed by railroads, the difference will be found largely in favor of the northern route; and for the interior cities, towns and states, still greater: for instance, take Cincinnati, and we find a difference in favor of the northern route of 682 miles; take Pittsburgh, the difference is 978 miles; Cleveland, 1,225 miles; Buffalo, 1,060 miles; Detroit, 939 miles; Khicago, 860 miles; Galena, 1,140 miles; St. Louis, 503 miles.

Having completed the comparisons of distances, I will now take up the 3d comparison, "that the construction per mile will be much greater, because of mountain barriers," etc. I think these objections must have been made without a proper examination of the facts. I have before described my route to the pass in the mountains as more feasible than any other route on the face of the globe; and from the pass to the ocean is more feasible than the last 420 miles of Mr. Forshey's, or even any of the principal part of the entire route, else I am altogether misinformed. How Mr Forshey is to get over the many marshes, soft bottom lands, hills, mountains, and ravines, which have been described to me, at a cost so low, when we know that the superstructure alone, with a rail of 64 to 75 lbs. to the yard costs $10,000 per mile, is beyond my comprehension, and we know that none but the very best road will answer here.

I have not yet learned that we can get to the ocean short of an ascent of about 12,000 feet. But I hope Mr. Forshey is correct, as the time may come sooner than we imagine, when that country will become settled with a different people from the present, and their wants will then build the road, if practicable, but not till then; and now for the commerce of Europe with Asia. His fourth objection or comparison, "that after its construction, 25 years hence, during a considerable portion of the year it would not be available; severe winters and deep snows would render it impracticable for two or three months of each year, whereas the southern route would be always practicable," etc. I do not suppose Mr. Forshey wishes us to understand him to say there will be more snows and severer winters 25 years hence; though it would appear so, else he has not examined this part of the subject. As we go west from the great lakes it is milder, and less snow on the mountains. In Wisconsin, the snow seldom falls over a foot deep all winter, and this dry, not thaw and freeze. As we go into and through the mountains, the elevation, of course, increases the cold. The snow falls about Christmas, and remains on till May; its falls not frequent, and dry; no rains to thaw it.

Mr. Fitzpatrick, whose experience for years renders him the best authority, says that "at Fort Laramie, very little snow rarely lays on the ground; has never seen a depth of snow more than 15 inches, and that very rare; never remains more than one or two days; thence to the pass continues during the winter about three months, depth 15 to 18 inches; thence to Greene river a decrease in depth, but remains longer than the east side of the pass; from Greene river to Bear river, crossing a range, about the same as at the pass; thence falling on to Bear river, it is rare that snow is found at any time, but descending the river northerly to Soda Springs, snow is again found 1½ to 2 feet deep; then, as you come on to Fort Hall, no snows, and very little on to Lewis Fork, to an immense plain; from this plain we get into a branch of Salmon river, without crossing a divide, and no more snow of consequence to the blue range, when snow is again found 2 feet deep; then there is no snow or winter to the ocean.

R. Campbell, Esq., a highly respectable and very intelligent merchant of St. Louis, spent three winters in succession, and a part of the fourth in the mountains from the pass to Fort Hall, and on to the head of Salmon river. He says that one winter *only* the snow fell 3 feet deep; fall commences 1 to 4th November (does not vary in time); very little, and melts off. At Christmas, the heavy fall commences (considers its regularity as to time remarkable); the falls are not frequent, and are dry, remain till April; some winters but very little, so that they could travel over most of the country. They found buffalo all winter living on the grass under the snow, which they root up. Mr. Campbell's animals were sustained in same manner, and by same means. He says that there are three routes from the pass to Fort Hall, all good.

From these statements from the most respectable source, and from many others, it appears that we have nothing to fear from snows in the winter, and that the route would not be impeded at all. The snows and winters are not so severe as in New York and New England, where delays are scarcely noticed, and much less than in a milder climate. I have witnessed more delays and difficulties between Baltimore and Washington, and Richmond, than in any of the northern States, because where the winter is severe, the snow falls dry and can be removed with machinery, when the rail remains free until another, which is not so frequent as in milder climates, where frequent sleet and rain, freeze and thaw, cover the rail with ice, much more difficult to remove than the deepest snow.

On the Baltimore and Ohio road, from Cumberland to Frostburg, on a grade of 135 feet to the mile, a locomotive, cars and all, passed up through drifts of snow eight and ten feet deep without difficulty, leaving the rails clear.

Having the most satisfactory accounts assuring us there is in the mountains but little rain, little and unfrequent snows, and the snow very dry, easily removed by machinery, so that we need not expect interruption at all, I take the 5th objection, that "the northern route must be liable to difficulties of passing through an uninhabitable region." If the country was now occupied, the land, *the only* means, could not be had to build the road, and the project must be abandoned, as, like Mr. Forshey's route, no one would subscribe to the stock. In the parts which are represented sterile, the road will create such facilities as would most probably render nearly all suited to man's use in some way; and the business of the road itself would cause settlement throughout its line.

Mr. Forshey says: "This will be borne in mind, however, that all the expenses of transportation to the Mississippi Valley on his (Mr. Whitney's) route, from its greater length, will be 30 per cent. greater than on the southern route, and the cost of transportation from ocean to ocean full 40 per cent. greater." Now let us look into this part of the subject, and I will make Charleston our terminus on the Atlantic for both routes.

First: Mr. Forshey's road can be built only by an appropriation of capital, must earn dividends or the investment is a bad one, and tolls exacted to meet its wants.

A railroad with business to its *nearly* full capacity, can transport merchandise and earn fair dividends at one cent per ton per mile, therefore I will assume one cent per ton per mile for Mr. Forshey's route—which by his estimate is from Charleston to Mazatlan 2,261 miles—at one cent is $22 61, thence to China at a comparative freight with other distances, say per ton weight $20 50; amounting to $43 11 for a ton weight of teas from China to Charleston, via southern route, or equal to two tons measurement of Young Hyson teas, heavier than any other description, and compares well in weight and bulk with flour—say the third class article in weight and bulk.

It will be seen by the foregoing table and statements, that from Charleston to Prairie du Chien is 1,097 miles, which road would be subject to earn dividends, and, at one cent per ton weight per mile, would be . $10 97

thence to the Pacific (Oregon) is 1,822 miles; but, as the road would be built from the public lands, it would not be subject to tolls for dividends, and one-half a cent per ton weight per mile would be equal to repairs and operations—say from Charleston to Oregon $9 11

or $2.53 less than the southern route;

thence to China, 5,400 miles *only* on this route, at a comparative freight say . . . . . $20 08 / $14 00

from Charleston to China, via the northern route $34 08

or $9 03 less than by the southern route, making Charleston the terminus for both.—The following table will show the exact difference between the two routes for all the cities north of Charleston; and also those in the interior. I have assumed that all the routes from Boston to Charleston, to the state of Ohio, or to the Ohio river, will be completed, and run on in one, or separately, through Ohio, Indiana, and Illinois, to join this northern route where it would cross the Mississippi river; that the commencement of this northern route would greatly accelerate their progress and completion, I think, cannot be doubted; and those different routes would accommodate directly all the interior places named, as well as many more; it is therefore that I have estimated freights on all these routes at one cent per ton weight per mile; and I have done the same for all the routes from the Atlantic cities to Charleston, which, I think, is below what the actual cost will be, as the amount of freight would not be large; whereas the routes leading directly to the Atlantic, through the rich productive states of Kentucky, Western Virginia, Ohio, Indiana, Illinois, etc., would be, even without the Pacific road, so fully employed as to allow the reduction of tolls to the lowest number. While for the southern route I have assumed, that under no possible circumstances should the road ever be built, can it draw business to it sufficient to induce the building

of railroads from the North to join it; and as the rivers must be the only channels of communication, I have therefore taken the lowest river price, at the season when the streams are fully navigable, as the prices have ranged for four years past, not including this year of high prices; I have, too, taken the lowest article of merchandise, flour; for towns or cities not directly on navigable streams, I have taken the shortest land carriage, at two cents per ton per mile; and, as it is well known that the Ohio, from Louisville down, is obstructed by low water, from middle of July to 1st December, and from Cincinnati by low water and ice for a greater length of time; and that the Mississippi, from St. Louis to its junction with the Ohio, is obstructed by ice and low water for about seven months of the year; it will be perceived the estimate and comparison is more than fair for the southern route. I have not even considered the great dangers, and losses of life and property in navigating those streams. Mr. Calhoun's able report estimates for 1841–2 the annual aggregate loss at 107½ boats, valued at $1,820,200. An addition should have been made to my estimates for insurance; for instance, a ton weight of teas, average cost $80 00 from China to St. Louis, via southern route, would be subject to $2 farther charge for insurance. Nor has anything been estimated for the many transhipments on the southern, which would be avoided on the northern; because, on the northern route a loaded car would go from any starting point, from any Atlantic or interior city, direct to its destination, or to the ocean without change. In my estimates it has been my endeavor to give all possible advantage to the southern route, as the table will show.

The following table exhibits the cost of transit for one ton weight of merchandise from the Atlantic cities to Charlestown at one cent per ton per mile; thence to Vicksburg 771 miles, or $7 71, at same rate; thence to Mazatlan, on the Pacific, 1,490 miles, or $14 90; and thence to China, 8,400 miles, is $20 50 more; and from the interior cities to Vicksburg, estimated at the lowest river prices, and thence to Mazatlan and China, as above, for the southern route; and for the northern route from the same places to Prairie du Chien, at one cent per ton per mile; thence to Oregon, on the Pacific, 1,822 miles, at ½ cent per ton per mile, is $9 11; and thence to China, 5,400 miles, or $14 per ton. Showing the totals at Charlesten, Vicksburg, Mazatlan, and China, for the southern and for the northern route; the totals at Prairie du Chien, Oregon, and China, with difference in favor of northern route. Prairie du Chien over Vicksburg, Oregon over Mazatlan on the Pacific, and northern over southern route to China.

	SOUTHERN ROUTE.				NORTHERN ROUTE.			Differ. between Prai. du Chien and Vicksburg, favor of former.	Difference to Ocean, favor of North'n Route.	Difference to China, favor of North'n Route.
	Total to Charleston.	Total to Vicksburg.	Total to Mazatlan.	Total to China.	Total to Prairie du Chien.	Total to Oregon.	Total to China.			
	miles.	miles.								
From Richmond to	$4 27	$11 98	$26 88	$47 38	$9 50	$18 61	$32 61	$ 2 48	$8 27	$14 77
" Washington	5 54	13 25	28 15	48 65	9 88	18 99	32 99	3 37	9 18	15 66
" Baltimore	5 91	13 65	28 55	49 05	9 48	18 59	32 59	4 17	9 96	16 46
" Philadelphia	7 09	14 80	29 70	50 20	10 41	19 52	33 52	4 40	10 18	16 68
" New York	7 96	15 67	30 57	51 07	11 41	20 52	34 52	4 26	10 05	16 55
" Boston	9 96	17 67	32 57	53 07	13 41	22 52	36 52	4 26	10 05	17 45
" New Orleans	....	3 00	17 90	38 40	8 30	17 41	31 41	....	49	6 99
" Louisville	....	5 00	19 90	40 40	4 30	13 41	27 41	70	6 49	12 99
" Cincinnati	....	6 00	20 90	41 40	4 50	13 61	27 61	1 50	7 29	13 79
" Wheeling	....	8 00	22 90	43 40	5 60	14 71	28 71	2 40	8 19	14 69
" Pittsburg	....	8 00	22 90	43 40	6 10	15 21	29 21	1 90	7 69	14 19
" Cleveland	....	12 00	26 90	47 40	5 17	14 28	28 28	6 83	12 62	19 12
" Buffalo	....	18 63	33 53	54 03	8 03	17 14	31 14	10 60	16 39	22 89
" Detroit	....	12 00	26 90	47 40	4 86	13 97	27 97	7 14	12 93	19 43
" St. Louis	....	7 00	21 90	42 40	3 00	12 11	26 11	4 00	9 79	16 29
" Alton	....	8 00	22 90	43 40	2 75	11 86	25 86	5 25	11 04	17 54
" Galena	....	14 50	29 40	49 90	60	9 71	23 71	13 90	19 69	25 99
" Chicago	....	11 75	26 65	47 15	2 10	11 21	25 21	9 65	15 44	21 94
" Prairie du Chien	....	14 50	29 40	49 90	....	9 11	23 11	14 50	20 29	26 29

A comparison of time has not yet been had, which would be greatly in favor of the northern route. A mild or southern clime enervates the system, so that, the world over, we do not expect the same habits of laborious industry or the same action, as where necessity forces all man's energies and efforts.—Therefore we could not expect the same speed or regularity of operation, and from Mazatlan to China would require from twenty to thirty days longer for a sail vessel, than from Oregon to China; in fact the better route for a vessel from Mazatlan bound to China, would be via Oregon; and for steamers, the only route, the only means of supply for fuel.

As regards local or southern interest, which I think manifests itself in Mr. Forchey's remarks, it should not be permitted to enter into this subject AT ALL; it is purely a national question, in which all and every part of our wide-spread country is to share equally. The means proposed for its accomplishment are national, and all have a claim to an equal share in the great results promised, which cannot be attained on any other than the route proposed. But I feel mysell warranted in saying that the southern interest has not been considered or understood in Mr. Forshey's remarks; believing I have already shown that taking Charleston as the terminus on the Atlantic for both, and making Charleston the only point of interest in the route, that the advantage would be in favor of the northern route of 30 days, in time, in distance to China of 2,342 miles, of $2 53 per ton weight for transit to the Pacific, and $9 03 per ton weight gain for transit to China.

And is this all that Charlestown would gain by the northern over the southern route? With this road commenced, South Carolina, Georgia, Alabama, Tennessee and Kentucky, would push their united efforts to complete a road on to Illinois, where an appropriation of government lands (on the line now unoccupied and without means of communication with markets) nearly worthless, and about being reduced by the graduation bill to, say, 25 cents per acre, would complete a road to join this northern route at the point where it crosses the Mississippi, at the same time bringing into use and value the immense amount of government lands through the entire centre of that great State. What would then be the position of Charleston? Why, in addition to her full share of the commerce of all the world over this great highway of nations, she would have a flood of all the vast products of the rich states of Missouri, Illinois, Indiana, Kentucky, Tennessee, and others, pouring in a torrent of commerce, of prosperity and wealth, from that immense valley which reaches at the very centre (the junction of the two great rivers, distant less than 700 miles), a rich basin capable of sustaining four-fold the population of the same space on any other part of the globe.—It would fill to overflowing her wharves and warehouses, in a manner scarcely dreamed of now. Can there be any mistake in this? None; because all that is wanted for its fullest realization is the cheap means of transit, which this route alone can afford, and the certainty of realization would bring forth ample means for its accomplishment.

Look at the fact, that from Prairie du Chien to Charleston, ten barrels of flour may be transported for $10 97, or one dollar and ten cents per barrel, requiring but about three days' time, and in the same comparative proportion for a shorter distance; and who can doubt the result? Surely *all* must see the true interests af not only Charleston, but all the South!

The tables which I have exhibited will show the true position of all the northern cities and States. Comment is unnecessary. If Charleston gains so much by the northern route, the northern States and cities would be still the greater comparative losers by the southern one. And for the great States in the Mississippi valley, which are by this route to be made not only the centre of this vast continent, but the centre of the entire globe, the great highway and thoroughfare for all the world, which is to be controled and sustained by it—if Charleston gains so much, as before shown, what would not they lose by the southern route? Their position, with the northern, would secure to them the great highway of nations, and all the necessary avenues or channels from the different Atlantic States to it, free from cost for construction. Thus, I think, it must appear as clear as light, that the route which by circumstances I have been forced to select, is the only one embracing *all* the interests of *all* the country; and that, considering everything, there is no other route where we can hope to accomplish this great work; no other where the only means—the wilderness lands—can be made by the labor of man alone to accomplish everything that is desired—richly rewarding the labor that has produced it, and extending comfort and happiness to millions now in destitution and want; no other where the streams can be bridged, and one uninterrupted, unimpeded communication made from ocean to ocean; no other where timber can be had for the road, and taken on it for the settlement of more than 1,200 miles of country existing without it; and, finally, no other which does not require one dollar from the treasury, from individuals or the people, but will add millions. Even the amount created by itself out of the waste lands, would be distributed among the people for labor and materials. Why, then, object, or bring opposing routes which can in no way have opposing interests?

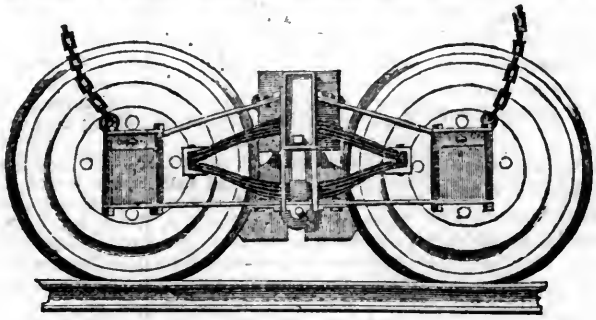
Mr. Forshey proposes individual means for his route; and, certainly, no one can object to that; but we can doubt the possibility of finding subscriptions. For the northern, however, we have seen, no means are required but the waste lands, the greater part of which are without value, and can never be made available without the road. Thus, without pecuniary outlay, may we control and command the world, commercially, morally, and politically; add millions of wealth to our treasury and nation, quadruple our population, and obtain the means which are to build Mr. Forshey's road, and all others which the wants of the people and country may demand.

Truly yours, A. WHITNEY.

New York, Sept. 8, 1847.

J. D. B. De Bow, Esq., New Orleans.

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.— for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3¼	8	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¾	5	2	6¼	9	4	13½	1-2	7½
16	2¾	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

p45 N. E. cor. 12th and Market sts., Philad., Pa.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
1tr Philadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO., *Agents.*

1y48 77 Pine St., New York.

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

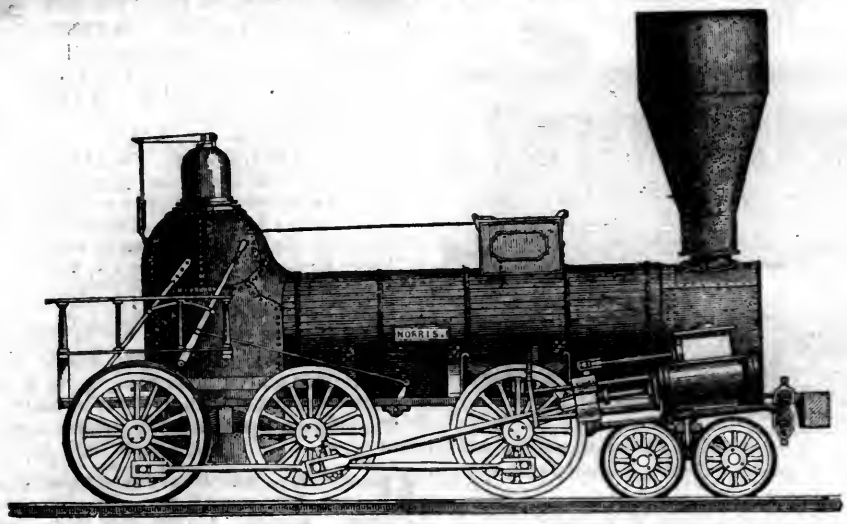
It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

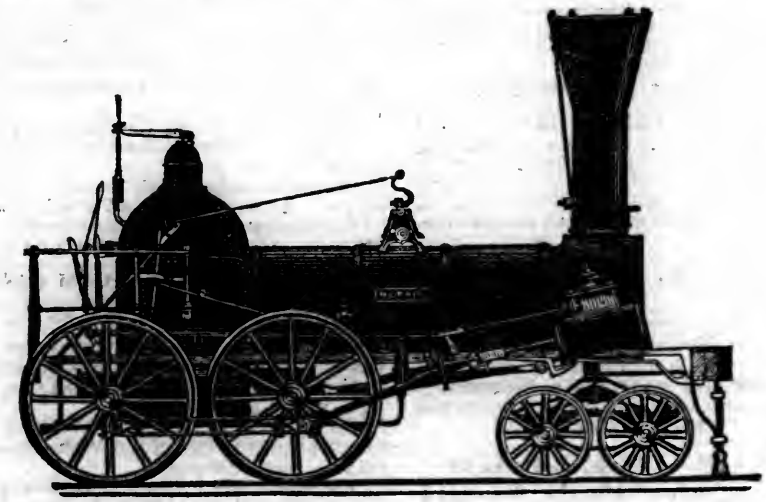
Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





MANUFACTURE to order Locomotive Steam Engines of every plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORBIS & BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a15 Paterson, N. J., or 60 Wall street, N. York.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, mos. from delivery of brick on board. Refer to

James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J
25,000 to 30 000 made weekly. 35

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a15 President of the Newcastle Manuf. Co.

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

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T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE, 142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ⅛ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER,

and

ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

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CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

125 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 *P. M. Lines run.*

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12½ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., July 15, 1847. 44*1y

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

Between Macon	and Decatur and immediate points.	0 22½		1 54	1 05	0 81 0 86
	and Knoxville & intermediate points	0 22½		1 54	1 10	0 76 0
	and Chattanooga.					0 61 0
Between Augusta	and Decatur and intermediate points.	$0 24		1 70	1 15	0 85 0 90
	and Knoxville & intermediate points.	$0 24		1 70	1 20	0 80 0
	and Chattanooga.					0 65 0
Between Charleston or Savannah	and Decatur and intermediate points.	$0 32		2 20	1 35	1 05 1 10
	and Knoxville & intermediate points.	$0 32		2 20	1 40	1 00 1
	and Chattanooga.					$0 85 0

1st class.—Boxes of Hats, Bonnets and Furniture per foot.....
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Scythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs..
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks, or Crates of Crockery, Hardware, and other heavy articles not enumerated below.
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.....
Per 100 lbs.....
Cotton.

Merchandize shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.
Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot.....	$0 20
Second class, per 100 lbs.....	1 20
Cotton, per 100 lbs.....	0 55
Third class, per 100 lbs.....	0 60
Fourth class, per 100 lbs.....	0 50

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN, ELIJAH PACKARD, ISAAC MILLS, } SPRINGFIELD, MASS.

1y48

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 2.] SATURDAY, JANUARY 8, 1848. [WHOLE No. 603, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, January 8, 1848.

CORRECTION.—By referring to page 823 of the last volume, Baltimore and Ohio Railroad Report, in the table showing the comparative expenses of the years 1846 and 1847—under the head of "Wages—Conductors and Brakemen," it will be seen that an error is noted. By substituting an 8 for the 0 in the upper line, it will, as it should, read $18,246, and the increase of expenses in this item will be as put down, $4,274 22, over that of 1846.

Baltimore and Ohio Railroad and its extension to the Ohio.

We find in the Baltimore American of the 7th, an able letter written by MR. MCLANE, the president, to the directors, of this company, developing his plan for the extension of the railroad to the Ohio river. It is clear in its suggestions, and forcible in its arguments. It recapitulates the various possible resources of the company, viz: state bonds, subscription by Virginia, etc., resources which ought to be available, but unfortunately may not be for some time to come, and discusses their probable availability; but finally settles down upon, and forcibly recommends the adoption of a system which will ensure the completion of the work within a few years, and make it one of the most independent in the country. He shows that the receipts of the current year, to 1st October next, will be $1,400,000, of which $750,000 will be net income; which amount will put the company in a position, by liquidating the claim of the Barings, and increasing the working stock of the road, to apply at least $850,000 the first year, 1849, of the extension, and an annually increasing amount thereafter, until the work is completed, "if the plan now recommended be adopted."

According to the estimates, it will require $6,300,000 to complete the road to the Ohio, and put it in operation. Assuming these estimates to be correct, it will require the income of about seven years and a half, at $850,000 a year, to complete the work; but we do not hesitate to say, that if this plan shall be adopted, the work may be as well completed in *five* as in seven years; and if the share holders will cheerfully adopt this course, and receive annually the amount of their dividends in stock, instead of dividing the net earnings of the road, they will be able, after three years' earnings, or $2,500,000 shall have been expended, and fifty or sixty miles of new road shall be in use, to dispose of the bonds of the state, on terms acceptible to the company, and thus be enabled to push on the work with renewed energy,

Mr. McLane says that "Previous to the opening of the road from Harper's ferry to Cumberland, an elaborate report, estimating the probable traffic and profits of the work after its completion, was prepared by the then chief engineer. The method pursued upon that occasion was founded upon established principles and universal custom. It assumed, from the best lights at command, the sources to be reached by the road, and the amount of traffic to be attracted by the facilities offered for its accommodation; and calculating upon well known principles, and from the experience already acquired, the cost of transportation of both passengers and burthen, it determined the probable amount of net revenue to be produced. From the accuracy of such a method, there is little liability to error. The estimates of Mr. Knight, in the report referred to, have been, in fact, more than justified by the result. The amount of trade and travel has been greater even than he estimated; the company have been able to maintain higher charges than he allowed; the cost of transportation has been reduced below the maximum he assumed, and both the aggregate revenue and the net earnings have exceeded his expectations.

"In fact, it may be taken to be almost universally true that the impulse given to the developement of every branch of labor, and to all the sources of commerce, by improved facilities of reaching a market, uniformly swells the amount of traffic beyond any previous anticipation. This fact alone would show the utter impossibility of estimating with any precision at present the extent of the vast stream of trade that may be expected to flow upon this work when finished to the Ohio river. If the results to which I am now about to allude from the opening of the road only to Cumberland have so far exceeded all reasonable anticipation, those that would surely follow a finished work in proximity with the great valley of the Mississippi, although they might not be susceptible of any precise present estimate, imperatively require that the company should not stop at any temporary inconvenience to realize them.

From the last annual report it appears the gross receipts from the *Main Stem* amounted to the sum of $1,101,936 58, being an increase of $205,621 36, or upwards of 23 per cent. over those of the preceding year, and that, at the same time, the cost of working the road, though liable to some unusual expenditures, was less in proportion than in previous years.

That the gross receipts would have been considerably more if the company could have provided suitable facilities for the accommodation of the existing trade, independently of new developements, there can be no doubt. The gross receipts being, as shown, $1,101,936 58, and the expenses of working and management, including some extraordinary items, being $590,828 98, the net earnings of the year amounted to $511,107 60—upwards of 7¼ per cent., upon the capital of $7,000,000. The same report shows the application of a part of this balance to objects of *capital*, and to certain temporary engagements of the previous year, as well as the consequent reduction of the dividend to 3 per cent., or $210,000.

"The amount of traffic, both passengers and burthen, since the extension of the road to Cumberland has been steadily on the increase, even with the inadequate accommodation the Board have been able to provide. During the first three years the increase was fully 20 per cent. per annum, and from 1845 inclusive the regular increase has not been less than 20, and has varied from 20 to 25 per cent.

"During the part of the current year already elapsed there has been an increase over the corresponding portion of the preceding year—notwithstanding the high price of produce in the year ending the 30th of September—of at least 42 per cent., and from the steady improvement in every branch of trade, the perpetual accumulation of passengers and produce of all kinds, and the recent establishment of a higher rate of charge during the winter season; it is quite certain that the rate of the increase, throughout the year, will not be less than 30 per cent."

From the *more than* realization of the estimated earnings of the road, after its extension to Cumberland, he assumes—and very justly so, we think—that the present estimates of future earnings and net profits may be relied on.

The time allowed, by the legislature of Virginia, for completing the work, is twelve years, from 6th of March, 1847—but Mr. McLane says:

"I hope, and am not without great confidence, that we would be able to complete the work in little more than half the limit required by the annual application of $850,000, or $70,833 per month. I have an

abiding confidence in the regular, steady augmentation of the business and profits of the road between Baltimore and Cumberland; and I see no reason to suppose, with the increase in population and progressive developments encouraged by the improving facilities of the road, and the greater economy of working it, that the increase by which the past has been steadily characterized should not attend the future operations, if not in the same ratio, certainly to at least one half or ten per cent.

It must be remembered, moreover, that from any point, from Cumberland to Fairmount, on the Monongahela river, a distance of 129 miles, and 59¼ miles from the Ohio river, the road, or any part of it, may be finished and put in operation at the pleasure of the company. At the mouth of Savage it would reach the great coal and iron region, and thence, even no further than Armstrong's, a distance of 55 miles, and near the State line, it would penetrate the fertile glades, pass in immediate proximity with the Northwestern Turnpike, and, at once, not only compete more successfully with the line from Cincinnati to Sandusky, but command the transportation of the trade in lumber, live stock, produce and merchandise of the northwestern part of Virginia, which could not fail to be attracted to Baltimore as the preferred market. The entire cost of this part of the line, with the necessary additional power west of Cumberland, is estimated by Mr. Latrobe at $1,600,000, and the immediate net profits of this part of the road, from the above resources, alone, have been estimated by the same engineer, at not less than 8 per cent., independent of the further receipts from the farther transportation to Baltimore.

So that this part of the road may be finished and in operation, with the adequate additional power, with no other aid than the annual surplus, as above estimated, contributing its entire profits to the further extension of the work, in a period of two years.

From Armstrong's to Fairmount, on the Monongahela, the distance would be 74¼ miles, and the cost of this section of the road, including the sum already allowed for the additional power, for immediate use, would not exceed $2,232,000; and it would therefore follow that, with an application of $850,000 of the annual surplus, in little more than four years from the 6th March, 1848, the work would be in full operation to Fairmount, and, contribute its profits to the assistance of the extension of the line west. The annual gross receipts of the road from Baltimore to Fairmount are estimated, by the present chief engineer, at $2,153,743, and the net profits at about a moiety or 9 1-6 per cent. upon the total capital invested."

If it were possible for us to say anything, in addition to what this able letter contains, in favor of the plan suggested, we should feel it a duty to add it here; but, as we cannot, we will merely say that we hope it will be at once adopted, and every possible effort made to carry it into extension.

Atlantic Dock, Brooklyn.

The following brief description of this important improvement at Brooklyn, N. Y., is from the N. Y. Courier and Enquirer. Though good, as far as it goes it is only a beginning of a description of the Atlantic Dock. We, also, visited it in May last and again a few days since, and found that great progress had been made since we were last there.

The Dock company proper have a water front of over *three thousand* feet, upon the entire length of which—with the exception of two hundred feet in the centre, for the entrance of vessels to the basin—they have constructed one of the most substantial piers in America. It is one hundred and fifty feet wide, and is to have a row of storehouses, the entire length, nearly one-half of which are already erected, and in use. The writer says,—

"We took advantage of the beautiful weather of yesterday to make a visit to the U. S. Public Stores, at the Atlantic dock, and there saw in operation the beginning—beautiful enough as beginings—but quite inconsiderable to what it is like to become—of this new trade.

But first of these admirable stores—admirable in situation, in construction, in multiplied conveniences of every sort. These have been built since 1st April last. Eight large double stone stores on the North part of the Atlantic dock basin—solid structures—the whole 400 feet in lenght, by 80 feet in depth. They are raised on piles closely driven and the beams and supports are abundant, and the uniform exterior, of hammered grey stone—a luxury we understand of the liberal builders, who were not bound by their contract with the Government, for whose use these stores are built, to any thing more ornamental than rough stone—give them quite an architectural air that satisfies the eye. The line of the window sills is straight as possible—proving that there has not been the least settling of the mass since it was erected.

There are eight more stores, precisely similar ones building—also for Government use—and the whole will constitute the safest, and most accessable, and most convenient public stores any where in the service of Government.

They stand in blocks of eight, on each side of the entrance, 200 feet wide, into the basin.

On the river front is a solid floor 35 feet in width, between the water edge and the stores. The depth of water is 24 feet. The stores stand on the pier some 150 feet wide, which separates the basin from the river; and in the rear is a floor equal in width with that on the other front. Here barrels of flour can be rolled out of the vessels into the stores, without being soiled, and are as bright when reshipped as when first taken from the canal boat.

Vessels discharging wheat or corn, going into the basin, and lying alongside this range of stores—of which there are two others besides—a steam engine thrusts down into the hold a patent steam elevator which raises the cargo to any one of the stories where it is wanted. The grain is weighed as it comes in, by 25 bushels at a time—and then dropped into a receptacle—whence by distributors, also worked by the steam engine—it is conveyed laterally, or up, or down, along covered ways in endless succession, and with unfailing dispatch and accuracy.

A canal boat with its five or six thousand bushels of wheat, shall haul alongside the dock at 9 o'clock in the morning, and by 12, or the fartherest, 2 o'clock, it shall be wholly unloaded, and that without any other agency of human labor than the two or three hands of the boat, occupying themselves with keeping the grain heaped up around the *maw* of the elevator.

A canal boat arriving from Albany in the morning, loaded with flour and wheat, may be discharged in time to go back again the same evening from the Atlantic dock.

Vessels taking in cargoes, will occupy the river front, and they are loaded as rapidly and as completely, so far as putting the cargoes on board is concerned, without the intervention of manual labor, as in the unloading of canal boats.

All the arrangements in the whole process of this labor-saving machinery, are alike simple, and admirable."

Inside of this pier is a basin of over *forty* acres with a depth of water averaging twenty feet at low tide, with 22 feet on the inside and 24 feet on the outside of the main pier. The basin is to be surrounded by immense store houses, and its vicinity will, in a few years, be covered with fine brick buildings. The distance from the Merchants Exchange, to the basin, is about the same as to Spring and Prince streets; and a circle struck from the Exchange and Bleecker street, takes in the entire basin.

The capacity of this basin, as a safe place for shipping, is immense. There may be nearly one hundred vessels laid up to, and unloaded upon, the wharves at the same time; and three hundred more may be safely laid inside of the pier, waiting their turn.

This is undoubtedly to become the great storehouse and granary for the city.

In constructing this dock, there have been over a thousand building lots reclaimed from the water and low ground covered by high tides; and the adjacent high grounds have been lowered from 70 to 80 feet, thus bringing near 2000 lots to the regular grade of the city.

The stores are built upon rows of piles, driven by steam power. The depth of water in the basin has been obtained by dredging, and the material removed by the machine is used for filling up the lots adjoining the wharves, back of the basin.

This company was chartered in May, 1840, with a capital of one million of dollars, and the directors were

J. Depeyster Ogden,	Ab'm Bell,
N. L. Griswold,	W. R. Wadsworth,
Richard Irwin,	Wm. Kemble,
Henry Grinnell,	Asa Worthington,

Cyrus P. Smith.

The grading and filling has been done by Messrs. Voorhees, Carmichael and Stranahan, gentlemen well known as eminently successful contractors upon a large scale—who are largely interested in this work as proprietors. When commenced it was by many, deemed one of the *schemes* of the day; but it is, in reality, one of the most important and essential improvements ever undertaken, for the convenience of the increasing business of New York.

The Coal Trade of Pennsylvania.

We gave, in our last, the aggregate of the coal trade in Pennsylvania, for 1847, with the exception of Shamokin, and we now give the entire report of the anthracite coal business of the year, from that excellent and useful paper, the MINERS' JOURNAL, published at *Pottsville*, by BENJAMIN BANNON—who may be considered a fair specimen of the *very best anthracite* of the region—and the worst wish we have for him is, that every person who uses anthracite coal, as a fuel, would subscribe, and *pay*, for his paper.

We stated, in our last, that the increase of 1847 over 1846 was 620,698, whereas it should have been 638,317. The Journal says:

The following is the official quantity of coal sent to market the two past years, which we have procured at considerable trouble, and can be relied upon as correct.

Schuylkill.	1847.	1846.	Increase.
Railroad.....	1,360,681	1,233,562	127,119
Canal.....	223,693	3,440	219,253
Pinegrove.....	67,457	58,926	8,531
	1,650,831	1,295,928	354,903
Lehigh.....	643,973	522,989	120,984
Lackawana.....	388,203	320,000	68,203
Wilkesbarre.....	284,398	192,503	91,895
Shamokin.....	14,904	12,572	2,332
	2,982,309	2,343,992	
	2,343,992		

Increase in '47.... 638,317 tons.

Of the quantity sent to market Schuylkill county furnished.....	tons.	1,650,831
All other regions.....	"	1,331,275
Excess in favor of Schuylkill co.—tons..		319,536

It will be observed that the increase for Scuylkill county in 1847, was 354,903 tons, and the increase from all the other regions was only 283,211.

Of the whole quantity sent to market since the commencement of the trade, Schuylkill county has furnished.....	tons.	10,213,120
All other regions.....	"	8,580,480
		18,793,603

There are few people, even those who recollect the commencement and progress of the coal business, who have a correct idea of the amount of business of Schuylkill county. They not only *mine coal*, but they also build machinery for mining coal, and for other purposes.

The following statement, from the "*Miners' Jour-*

nal," will give some idea of the amount of machinery manufactured, and used in the county. It will hardly be credited that there are as many—*save one*—steam engines in operation in this one county, which, only a few years since was a wilderness, as in the entire territory of France, with its 34,000,000 of population!

It appears that 79 engines, of 2212 horse power, were manufactured in the county during the past year; this, however, is not a fair criterion to judge of the amount of machinery, manufactured in the same shops, as it sometimes occurs that an engine costing $10,000 or $12,000, requires machinery, in addition, costing $15,000 to $50,000; and in one instance, we believe, the machinery ordered from Messrs. Haywood and Snyder, by one concern in Boston—yes, in *Boston*, as it appears the Bostonians come to *Pottsville* for engines and machinery, for *rolling* mills—cost over $60,000, while the engine cost less than $15,000.

But we give the facts as we find them, as follows:

"*Progress of Steam Power in the Coal Business.*

The whole number of steam engines engaged in the coal trade, in this region, is as follows:—

	Engines.	Horse Power.
Engaged in the trade, 1845,	68	2018
Added in.....1846,	38	903
	106	2921
Added in.....1847,	61	1544
	167	4465

Making the whole number of engines engaged in pumping, hoisting and breaking coal in the Schuylkill county coal region, 167—with an aggregate power of 4465 horses. As a portion of these engines are run day and night, a horse power may be estimated equal to the power of 10 men, consequently they perform the labor of *forty-four thousand six hundred and fifty men.*

"All the engines added in 1847 were built in Schuylkill county. Our machinists, also, built during the year, 18 engines for other purposes than mining, with an aggregate power of 688 horses.—Eight of these are used in Schuylkill county, for various purposes—the others were sent to Boston, Reading, Harrisburg, Columbia, and Carbon counties, Sunbury, Mexico, etc., etc.—making 79 steam engines, of the power of 2212 horses, turned out in Schuylkill county, in the year 1847. We question whether any other county or city in the United States turned out an equal number of engines within the same period.

"By a recent official report, it appears that in France, which numbers a population of upwards of 34,000,000 inhabitants, there were, in 1845, only 207 steam engines in operation in that country—there are in Schuylkill county alone, 206 steam engines erected at the present time, all of which are running, except three or four.

"The engines built and sold during the last year were turned out at the following establishments:

	No.	H. Power.
Haywood and Snyder, Pottsville,	18	653
E. W. McGinnis, "	12	480
J. L. Pott, "	4	75
W. DeHaven, Minersville,	20	540
S. Sillyman and Co., Port Carbon,	6	120
T. Wintersteen, "	6	139
Hudson, Smith & Taylor, Tamaqua	8	140
Umholtz & Co., Tremont,	4	50
Hawks, Sykes & Vancleve, St Clair	1	15
	79	2212

"There are about 12 engines (several of the largest class) completed in the different establishments, some of which have been sold and not taken away—the others remain unsold. The number built in the county last year was 50—increase in 1847, 29.

"The engines turned out at these establishments will compare with any manufactured in the United States, and in point of strength and durability they are not equalled. When we take into consideration the fact that during the last year 61 engines for colliery purposes, more than one half of the whole number employed at the commencement of the year, were added, we can form a tolerably correct idea of the rapidity with which the use of steam power is increasing in our region. Should the coal trade continue to increase as it has for a few years back, we may venture the prediction that the period is not far distant when Schuylkill county will be noted not only for manufacturing, but for employing a greater number of steam engines than any other county in the Union."

Few people, indeed, who have not visited the coal region, have any idea of the labor of mining coal. Many people have an idea that the coal lays in the mountain, and that it is brought out upon a level, or descending grade, whereas the facts are that it is found in large masses in most instances in veins of a few feet in thickness, standing at an angle of about 45 degrees, and is brought up from *one* hundred to *five* hundred feet, and sometimes from *six* to *eight* hundred feet, and from far below the beds of the streams, as will be seen by the following extracts from the same Journal. It says that, "as the expenses of mining increases, the number of operators are gradually diminishing. This is apparent from the fact that although the number of collieries have increased during the last year, the number of operators in the region have diminished down to about 100. Three years ago they numbered about 140. Some of the larger operators work five and six collieries.

The collieries are located as follows:

	Above Water level.	Below. Water level.
West Branch	28	14
Mount Carbon	7	15
Mill Creek	11	6
Schuylkill Valley	33	7
Little Schuylkill	11	
Swatara	11	
	101	42
	42	
	143	

Total collieries worked in 1847, 143, of which 42 are below the water level. There are probably about 15 additional collieries preparing for next year's business, 7 of which are below the water level. Some of the old ones are worked out above the water level, and are standing idle.

The following list shows the names of the principal "operators," as those who work the mines are termed, in the region. The Journal says "We append below a list of all the operators in this region who have mined and sent to market over 6000 tons of coal in 1847, except three or four on the Mount Carbon railroad, a statement of which the collector informs us he is authorized by the company not to furnish.

	Tons.
Milnes, Haywood & Co	98,907
M. G. & P. Heilner	92,769
James C. Oliver	88,017
Rodgers, Sinnickson & Co	81,688
William Payne	64,273
S. Sillyman & C. Sillyman & Co	54,435
Gideon Bast	54,345
George H. Potts	46,766
Joseph G. Lawton	46,573
Thos. Petherick	44,414
Robert Adams & Co	40,155
George Spencer & Co	38,131
John Pinkerton	37,112
Charles Miller	36,341
Charles M. Hill	36,091
W. & T. Johns	29,523
E. W. McGinnis	26,908
Jacob Serrill	24,856
Alfred Lawton	22,496
T. & W. Pollock	17,073
J. Cockhill	16,584
Sillyman & Fister	16,423
Thomas T. Ash	15,927
Haven's mine, Mill Creek	15,006
Joseph F. Taylor	14,898
A. Heebner & Sons	13,374
Caleb Parker	13,052
R. Hedscher	12,343
R. Kear	11,287
James Penman	11,286
Thomas Williams	9,173
John Spencer	8,980
J. Wasley	8,908
Jones & Evans	8,903
Colehan & Hannan	8,858
James Berry	7,980
A. A. Clarkson	7,951
H. Guiterman & Co	6,846

There were only 100 operators engaged in mining coal in the whole Schuylkill region during 1847. Of this number 17 mined upwards of 30,000 tons of coal—23 mined upwards of 20,000 tons—and 38 upwards of 10,000 tons.

17 sent about	tons.	1,036,000
6 between 20 and 30,000 tons sent		156,000
23 operators sent		1,192,000
77 sent the balance about		458,000

Having given the foregoing facts, in relation to the coal trade, which show an increase for the past year truly astonishing, and preparation for a much larger business hereafter, which we are quite sure will be required for the increasing consumption, we again take the liberty to recommend to, and urge upon the *railroad* and *canal* companies—by which, and *which alone*, it can be transported to market—the establishment of rates of transportation and toll, which will ensure to the capital invested in those works, a fair and liberal return. Whatever may have been, heretofore, the difference of opinion in relation to the relative ability of the two kinds of improvement, for carrying coal, it is now well established that neither work can expect to carry all the coal, and therefore it is now the proper time to fix upon a system of tolls which will give a fair return upon the enormous amount of capital invested in these works; which have heretofore been used for the exclusive benefit of the *consumers* of *fuel*, rather than for the benefit of those who have constructed the works. It is a question for them, and them alone, to settle.

The following statement shows the details of the Lehigh operations, and an increase of business that indicates coming prosperity; a result which that region is richly deserving of, as they were the first to furnish a *prejudiced* community with the anthracite coal, and of course to receive the anathemas, both loud and oft repeated, of those who attempted to make fires with it.

Of one thing we are quite sure, and that is that the increasing demand for coal will ensure them ample returns, at no distant day.

LEHIGH COAL TRADE.

The following is a comparison of the trade in the following years sent from the different sections of this region:

	1847.	1846.
Lehigh Summit mines,	201,951	165,011
Do. Room Run	182,978	109,652
Beaver Meadow Co.,	109,363	85,948
Summit Co.,	32,820	11,868
Hazleton Co.,	105,766	98,541
Buck Mountain Co.,	50,847	46,104
Wyoming,	10,246	5,866
	643,972	522,989
	522,989	
Increase in 1847,	120,983	

Mixed Gauge, Cheltenham.

Herapath says "a gentleman intimately acquainted with the railway system writes:—What a farce is the opening of the double gauge to Cheltenham! The line is only about *six miles long*. It has no sidings or intermediate stations! When it reaches the town, there are *two stations*,—one for the broad

gauge and one for the narrow? If the mixed gauge requires separate stations, it must be allowed by all to be a failure; because, at this moment, all the companies are spending large sums to make joint stations in the towns where lines meet, in order to save expense of working, and afford a convenience to the public."

The farce of the mixed gauges on the 7 miles between these towns is strictly Brunellian. Why had not the little man laid the broad gauge down by the side of the narrow, and called that a mixed gauge? It would have been quite as much of a mixture as it is to lay a third rail where there are no crossings and sidings, and where the stations for the two gauges are separate. We advise Mr. Brunel to leave off these clap-traps and "little-goes." Before men of sense and experience they can produce but one feeling, and that not a favorable one. Let us see 40 or 50 miles of mixed gauges laid down, with 10 or 12 stations, half a dozen sidings and crossings, and two or three branches entering and leaving the line, and that we admit will be a fair trial.

Dock Property.--Port Grimsby.

We find the following statement in Herapath in relation to the value of dock property on the Humber. This may indicate the prospective value of the Atlantic dock property at New York.

A return has been made by the collector of customs at Grimsby, showing an increase, such as probably has never been equalled in the Kingdom, and which justifies the most sanguine anticipations of the shareholders of the Manchester, Sheffield, and Lincolnshire company. The dock at Grimsby is now quite full of vessels, and there are 40 outside waiting for their turn to enter. As an intimation of the value of dock property on the Humber, it may be stated that the Hull dock shares, of £500, are now £1,900 each. The following is a comparative account of the revenue collected in the port of Grimsby in the year 1843, 1844, 1845, 1846, and to the 10th October, 1847:—

1843	£4,046	3	4
1844	6,191	17	11
1845	11,209	13	9
1846	32,736	3	0
1847, to October 10th	52,120	6	11
Increase on 1843	£48,074	3	7

This enormous increase affords a happy presage of the business likely to be done there when the docks shall be completed and the railway opened.—"Sheffield and Rotherham Independent."

Wrought Iron Tubular Bridge.

A correspondent of Herapath's Journal says that "The tube for a single line of railway over the Conway is now on the eve of completion, and the chains and presses, for raising it to its seat on the piers, will be sent off from London next week, by the London and North-Western railway, to the Birkenhead docks, thence to be shipped to Conway. The hydraulic presses, pumps, and engines for working them, have been prepared by Easton and Amos, of the Grove, Southwark, and we yesterday saw them in full working action. Mr. Stephenson returned to town on Thursday; and there is no doubt that, by the end of the month, we shall be able to record that the tube is spanning the Conway.

We believe, that at the latter part of this week, or the beginning of the next, the tube will be tested, which will be completed by the time the raising apparatus reaches Conway.

The pumps are placed on the same axis as the steam cylinder, which, being in a horizontal position, and with one pump at each end of the cylinder, having a double piston rod, to work both pumps simultaneously, produces one regular stream into the hydraulic presses, The stroke of the cylinder is 16 inches; the pump bore 1¼ inch; the number of strokes per minute will be about 45, so that the tube may be expected to be raised, (allowing for the delays of shifting the chain, etc.,) about 2 feet per minute."

Air Engines for Railroads and Common Roads.

Mr. Evan J. Purser, of Philadelphia, proposes to construct an engine to be propelled by heated air so as to combine a greater amount of power with more speed, having less weight, and therefore less resistance than the common engines, and which, as he says, can be applied successfully to railroads and common highways. He would like to have assistance in the construction of his engine, as he is but a working mechanic. Here is an opportunity for some of the Inventors' Institutes to do a good turn and exhibit a true philanthropic spirit. Let any of the secretaries of said associations direct a communication to Mr. Purser, No. 184 Chesnut street, Philadelphia, and they will obtain all the desired information.—*Scientific American.*

Mixed Gauge.

The Buffalo Commercial Advertiser, which we do not receive, says, "by the courtesy of Mr. Wallace, who has been long and favorably known as the courteous and indefatigable superintendent of the Buffalo and Attica railroad, we have seen a beautiful model of a recent invention by himself—a method to obviate the inconveniences arising from the different widths of the railroads to meet at Attica, and consequently of the carriages which it is requisite should run over this road. The width of the N. Y. and Erie railroad is 6 feet. The Attica and Hornellsville track will be of the same width. That of the Buffalo and Attica track is only 4 feet 8½in. How, without the troublesome and expensive removal of freight from one car to another, can its transportation to Buffalo from either of the two first mentioned routes be accomplished? The invention of Mr. Wallace consists merely in having an inner and an outer line of rails, adapted for carriages o each size, so that on the same road cars of various sizes may travel in the same train—or cars of the greater width be drawn by an engine of the narrower size—or the reverses."

We shall be obliged to Mr. Wallace for a drawing and description of his plan for accomplishing this object.—[Ed. R. R. J.]

Extraordinary Railway Travelling.

In the course of a discussion, a few days since, between two gentlemen connected with the railway world—one an advocate of the narrow, and the other of the broad gauge—the gentleman in favor of the latter asserted that he could travel upwards of 700 miles in 24 consecutive hours, by the ordinary trains of the Great Western company. This was disputed; a wager was the result, and the following are the particulars of the performances by the gentlemen who undertook to decide the wager:—He left Exeter by the 12 o'clock A. M. express train, which started 2 minutes after its time, and arrived at Paddington 31 min. after 4 P. M; he next left Paddington by the 5 30 P. M. express, and reached Swindon at 5 min. past 7. At 7 40 P. M. he left Swindon, by the 3 15 up train from Exeter, and arrived at Maidenhead at 9 26. At this station he waited for the 8 55 down night mail from London, by which he again started for Exeter at 9 h. 4 min., where he arrived at 7 min. past 4 on the following morning. At 38 min. past 6 he left Exeter by the morning express, and reached Paddington at 58 m past 10 A. M. He then crossed to the down station and was just in time for the 11 o'clock train to Maidenhead, which place he reached at 1 min. past 12. The distances thus performed are as follows—

	Miles.
From Exeter to Paddington	193¾
" Paddington to Swindon	77
" Swindon to Maidenhead	55
" Maidenhead to Exeter	171
" Exeter to London	193¾
" London to Maidenhead	22¼
Making a total of	713

miles travelled in one minute within the 24 hours. —*Railway Record.*

Improved Mode of Burning Anthracite Coal in Locomotives.

The following partial description of an improved fire-box for burning anthracite coal in locomotive engines, is from the North American and U. S. Gazette. If Mr. Henniss has accomplished an object so desirable, he has done the railroad interest good service, and deserves ample returns, and we shall be pleased to hear from him in relation to it.

"We have inspected," says the writer, in the North American, "the model of an improvement of the fire box of the locomotive engine, by which the desired end of burning anthracite coal, with as much or greater facility than in a stove, is, to all appearance, fully attained. An endless grate passes over rollers at each end of the fire box, and ratchet wheels affixed to them, enable the fireman to make the grate revolve at will, either way. By a simple arrangement of a lever, one end of the grate may be raised or depressed, so as to give greater space and facility for throwing the clinker out upon the track. The adjustment of the parts is very simple, and they cannot be thrown out of proper working order.

The great difficulty hitherto experienced in burning coal in locomotives, is that the great draft ignites the coal too rapidly, and melts into a mass of clinker on the grate, by which all the draft is soon excluded. The intense heat is expended on the sides of the fire box, and causes its speedy destruction. By this invention the coal may be distributed at will and freed from clinker, while by the forward movement of the grate it has a tendency to throw the body of the coal in a triangular form, and permit the fresh coal at the top to find its way down toward the grate. The grate bars, too, may be kept comparatively cool by the change of surface their rotary motion permits.

The inventor, Mr. William G. Henniss, of Pottsville, has submitted the model to several scientific gentlemen, and others connected with the practical operations of locomotives, and it has received their commendations and approval. The increasing scarcity of wood is proving the necessity, for some means by which coal can be burned in locomotives more imperious, and we hope that in Mr. Henniss' invention that means has been found."

New Steam Gauge.

Mr. George Stephenson addressed the following letter, dated October 15, 1847, to the London Daily News.

"Sir,—A most important invention has been submitted to me for my approval, patented by a Mr. Smith, of Nottingham, and is intended to indicate the strength of steam in steam engine boilers. It is particularly adapted for steamboats, and can be placed in the cabin, on deck, or on any other part of the vessel, where it may be seen by every passenger on board. It may also be fixed in the office of every manufactory where a steam engine is used, at a considerable distance from the boiler. I am so much pleased with it that I have put one up at one of my own collieries; it is some distance from the boiler, and in another house, and works most beautifully, showing the rise and fall of the steam in the most delicate manner. The indicator is like the face of a clock, with a pointer, making one revolution in measuring from 1 lb. to 100 lbs. upon the square inch of the pressure of steam; it is quite from under the control of the engineer, or any other

person, so that its indications may be relied upon, and the construction is so simple that it is scarcely possible for it to get out of order. I might give a full explanation of the machine, but I think it best to leave that to the inventor himself. The numerous and appalling accidents which have occurred from the bursting of steamboat boilers, have induced me to give you these observations, which I think desirable to be laid before the public. I may state that I have no pecuniary interest in the scheme; but being the first person to whom it has been shown, and the first to make use of it, I feel it a duty that I owe to the inventor, as well as the public, to make it as universally known as possible. The indicator is put up at Tapton colliery, near Chesterfield, and may be seen any day, by any respectable person, by inquiring either for Mr. Hindmarsh or Mr. Langlands.

"GEORGE STEPHENSON.

"Tapton House, Chesterfield, Oct. 15, 1847."

Railroad Items.

Pittsburg and Connellsville Railroad Co.—This company has issued proposals for the graduation and masonary on four miles of their road, extending up the Youghiogeny river, from the villiage of M'Keesport in the county of Alleghany.

The Legislature of Virginia has passed a bill authorizing the city of Richmond to subscribe 200,000 dollars to the stock of the Richmond and Danville Railroad Company.

The subscriptions to the Hudson River railroad are coming in faster than the funds can be disposed of in the construction of the work, and the directors have adopted a resolution giving subscribers leave to retain in their hands, for some months, the fifth and sixth instalments.

The air-line railway (New York and Boston) project has secured a subscription to an amount more than sufficient for the construction of the work. The excess of subscription is stated at 500,000 dollars.

Long Freight Train.—The new engine. North Carolina, came in from the West, on Thursday evening, with a train of one hundred and eighteen cars.—*Springfield (Mass.) Gazette.*

Iron Vessels--The Josephine, of Liverpool.

The following description of the "Josephine, of Liverpool," an iron vessel built for the Mexican trade, or to cross the bars of the Mexican ports, may be interesting to some of our readers, and therefore we give it a place.

An account of the Iron Barque Josephine, of Liverpool. By Capt. Masters, who commanded her in the voyages she has made.

The subject of iron vessels is one of great importance, and the use of that material in naval architecture has been steadily progressing since it was introduced for sea-going vessels by Mr. Manby, in the steamer named after him in 1821, and which was the only vessel that ever conveyed a cargoe direct between London and Paris, without transhipment.—Sanguine hopes had been entertained of introducing iron for vessels of war; but it appears from the partial accounts that have been made public of the results of the experiments at Woolwich and elsewhere, that the effects of cannon shot upon iron vessels are more destructive than upon timber. The paper read was a plain and somewhat dry specification of the construction of the vessel, which will, however, when printed *in extenso* in the minutes of proceedings, be extremely useful.—The main dimensions of the barque Josephine are—length, over all. 99 feet 3 inches; extreme breadth, 24 feet 6 inches; depth of hold 9 feet 9 inches; register tonnage 168 tons; by old measurement 221 tons. She was of a build, differing from almost any other merchant ship, being intended tor service in the Mexican trade, and calculated to cross the bar of Tampico, and other impediments. She was entirely of iron, even to the bulwarks; and as she lay low in the water, drawing 9 feet aft, and 8 feet 8 inches forward, her ports were hung on hinges forward, so that they should act as valves, and allow the water to escape from the deck, and yet shut of themselves when she heeled over deep on her side. Her general rate of sailing was from 11 1-2 to 12 knots per hour; she was very buoyant and very dry, rising well to the sea. There was great capacity for stowing the cargoe, owing to the absence of large projecting timbers. She was somewhat damp forward and aft, but very dry in the main hold. There was not found to be any difference in the health of the crew from that of wooden vessels; she was a little cooler than other ships owing to her being so deep in the water, and the thin material did not retain the heat like wood. Iron ships have generally been found to get very foul; the Josephine was, however, paid with various compositions as an experiment. That which succeeded best was --1 barrel of varnish, 2¾ cwts. of best tallow, 40 lbs. black lead, 7 lbs. brimstone, and 70 lbs. arsenic. This being applied hot, the iron having been previously warmed and paid with boiled linseed oil, appeared to have prevented foulness, as after her voyages there was little weed or grass, and scarcely any barnacles; but very slight oxidation took place, and that only where the composition had been rubbed off. They were as much annoyed by rats as in a timber ship, nor could they be destroyed by any of the means adopted. The principal feature of the paper was that which treated of the local attraction of the compass, which can scarcely be given in an abridged form. It appeared that as long as the ship was on an even keel, and perfectly upright, the compass acted correctly, but in proportion to the listing over, so was the derangement of the magnet, the local attraction being changed by the side frames and deck beams falling into new positions.—This caused great variation in the ship's course, and it led to conjecture whether this may not have been the cause of the loss of the Great Britain—as if her compasses were acted upon as much as those of the Josephine, a deviation of 6 1-2 miles from her course might easily have occurred. Capt. Masters suggested the hanging the binnacles complete in gimbles like the compass, in order to their always remaining vertical, and also in adjusting the compasses, that they should be tried in every position, a table of variations being made out for every degree of listing over.—The paper was illustrated by drawings of the vessel and of her rigging, which possessed peculiarities, and also by several tables for the correction of the compasses.—*Min. Jour.*

Foreign Patent Laws.

We find, in the Scientific American, the following in relation to Foreign Patent Laws. Those which afford the highest security for inventors seem to be those of Great Britain, France, Spain, the Roman States, and Bavaria.

While the legislation of most countries, in respect to this subject, might be materially improved, it is to be lamented that in some countries, for instance in Portugal and Belgium, the laws, such as they are, have been in some points disregarded by the authorities themselves, and applicants for patents have been subjected to arbitrary conditions.

A brief survey of the Patent Laws of Europe may be of advantage to some readers of the Railroad Journal.

Great Britain.—The British Government grants patents both of importation and invention for not more than 14 years.

A patent granted in England comprising the principality of Wales and the town of Berwick, costs £110 sterling, or about $528.

A patent for Scotland alone costs £80 sterling, or about $380.

A patent for Ireland alone costs £138 sterling, or about $662 40.

A patent for England and Scotland costs about £190 sterling, or about $912.

A patent for England, Scotland and Ireland costs £218 sterling, or about $1046 40—and even these enormous sums do not include the amounts charged in addition for the Colonies.

With respect to the fees of English Patent Agents, they range from £10 to £20 sterling.

By the Act of 7 and 8 Victoria, the term of the patent may be extended for a period not exceeding 14 years.

Patents of addition for improvements are granted.

France.—The French Patent Law is clear and liberal. Patents are issued in France, either to citizens or to foreigners, for all industrial inventions, except pharmaceutical compounds or remedies, which are subject to special laws—and also except plans and combinations of credit and finance. No discovery is deemed patentable, if made public before application so as to enable any one to execute it.

The charges for patents are:—for a term of 5 years 500 francs, or about $93 70.

For a term of 10 years 1000 francs, or about $187 40; and for a term of 15 years 1500 francs, or about $281 10.

These charges are to be paid in annual instalments of 100 francs, or about $18 74.

Neglect in making a payment causes a forfeiture of the patent.

No other person besides the original patentee can obtain a patent of addition, within a year from the date of the patent,—but any one in possession of an improvement, may deposit a demand for such a patent, which will remain sealed until the expiration of such 12 months, when it may be granted provided the original patentee has not in the meantime demanded a patent for a similar improvement.

The subject patented must be put in practical operation within two years from the date of the grant.

The term of a patent's duration cannot be prolonged without an express legislative act.

If a foreign patentee obtains a patent in France, the French patent will expire with the foreign patent.

Austria.—In this country patents of invention are granted to applicants whether natives or aliens, for terms of from 1 to 15 years, at the option of the petitioner. The petitioner may procure a patent for 1 to 15 years, at the option of the petitioner. The petitioner may procure a patent for one year and prolong it as he may think proper, within the limits allowed.

Patents are not granted for the preparation of food or medicine.

Patents by the act of January, 1840, are granted for and at the following prices and rates respectively:—For 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 years—at 25, 35, 45, 55. 65, 80, 100, 125, 155, 190, 230, 275, 325, 380, 440 florins of Austria, which are about the value of 47 cents each, and those payments must be made in full at the time of soliciting the patents, according to a recent alteration, and there is a further annual tax to be paid on account thereof ranging from $3 56 to $4 80.

A patent of addition, as such, cannot be granted. An improvement can only be protected by a new patent.

A patent right must be exercised within the first year of its acquisition, and not neglected during a year. Foreign patentees, or their assignees, may procure patents in Austria, for not more, indirectly, than 15 years, and determinable with the foreign patent.

Prussia.—Prussian patents, both of invention and importation, are granted *nominally* only to resident of that kingdom, and, if transferred, the assignees must also be residents.

The government usually fixes the period for which patents shall run. They are usually granted for 8 years. For such patents the charge is about $4,86.

The subject of the patent must be new and never have been divulged in any printed work.

In consequence of the cheapness of patents in this country, patents of addition for improvements are not demanded, but new patents for this purpose are taken out.

The government fixes the term within which the patent must be set in operation, which term is usually 5 months after its issue.

Belgium.—In this kingdom a patent, either of invention or importation, may be granted for 5, 10 or 15 years, at the option of the petitioner.

If a patent of importation be granted, it expires with the original patent procured in the country from which the importation is made. So that if an American patent has 10 years unexpired, the Belgian patent of importation should be taken out for 10, not for 15 years.

This government rarely extends the life of patents beyond the period first fixed.

The subject of the patent must be new, and never published in printed work.

The charges for Belgian patents are:—For a 5 years patent about £13 or $62 40; for 10 years, about £26 or $124 80; for 15 years, about £52 or $248 60. Of this sum £1 or £2 is required to be paid on dilivery of patent, and the balance in 2 years. In default of payment the invention is declared to be public property.

Patents of addition are issued gratuitously, but with the same formalities as those prescribed in case of the original patent.

Belgian patents must be put in activity withiu two years from the time of their issue, although this term is sometimes extended.

Belgian patents may be granted either to natives or to foreigners, and for almost any invention, although the government has in some cases refused to grant patents for improvements connected with railroads, probably supposing that they would be able eventually to procure the benefit of such improvements without paying for them.

A Belgian patent is, by a most illiberal provision, forfeited by taking out a patent in the same name in another country.

Holland.—The patent laws of Holland are identical with those of Belgium, although in some respects differently construed by the governments of those countries respectively.

Russia.—The Russian government grants patents of invention and also of importation, both to citizens and aliens.

The actual charges for patents of invention are:—For 3 years, 300 roubles or about $75; for 5 years, 500 roubles or about $125; for 10 years, 1500 roubles or about $375. And patents of invention are not granted for a longer period than 10 years.

The charges for patents of importation are: For 4 years, 800 roubles or about $200; for 5 years, 1000 roubles or about $250; for 6 years 1200 roubles or about $300. Patents of importation are not granted for a longer period than 5 years.—[Euling's Foreign Patent Laws of 1845.

No patent of addition will be granted in this country, so that if an improvement be made, a new patent must be granted.

The term prescribed by the Russian government for setting the object of a patent in operation in six months.

Railways and the Money Pressure in England.

It may be interesting to some of our readers to know what is said by eminent men, in the British Parliament, in relation to the influences of Railway operations, upon the money market, and the business of the country, during the past few years; we therefore give the remarks of Lord George Bentinck, in the House of Commons, on the evening of 24th November last, and of the Chancellor of the Exchequer, on a subsequent evening.

These gentlemen look at the subject from different directions—one from the *east* and the other from the *west*—and, almost, of course, their conclusions differ; but, as disinterested parties may find interesting and useful facts on both sides, we give both speeches, as we find them in the London Railway Record, of November 27th, merely omitting the oft repeated "Hear, hear."

In the course of the debate on the address, in the House of Commons, on Wednesday, Lord George Bentinck thus adverted to the connection of railways with the money pressure:—

The honorable gentlemen who moved the address attributed all the distress, or the greater portion of it, to the enormous sums that had been expended in railways; he laid all the distress in the money market to the charge of the railways. This is a very convenient argument. I am not surprised to hear a free trade Government, and the political economists, join in a cry that it is "all the railways" that have brought on these difficulties. That there are difficulties nobody disputes; so gloomy a speech never was made by any sovereign to her people as that which we are considering now. But when the honorable gentleman says that £161,000,000 have been spent on railways, and asks whether it is possible that any country should bear such a drain as that, he forgot to tell us that that expenditure had taken place in the course of 20 years. There was laid upon the table of this House, at the latter end of the last session, a return showing that the sum total that had been spent up to January 1, 1847, on railway works and railway stock (exclusive, of course, of land, but it must be clear to every gentleman that any money paid for land is merely transferred from one to another, and cannot be counted in the drain of the country), amounted in round numbers to £82,000,000 sterling, and that £32,000,000 of this had been expended prior to the year 1841, leaving but £50,000,000 expended in the six years, 1841 to 1846, both inclusive. The honorable gentleman states—I do not know where he gets his authority—that the sum that has been expended now amounts to £161,000,000. I believe that the sums called up in the present year amount to £33,000.000, but £6,000,000, or £7,000,000 of that are in arrear; and the result is that in the present year about £26,000,000, with, perhaps, £7,000,000 more, making altogether £33,000,000, have to be added to the £50,000,000, and you have at the outside £85 000,000 sterling spent in the period between 1840 and the present time. That is little more than £12,500,000 a year. Then are we to be told that this country, after 32 years of peace, is reduced to that state of poverty and distress that it cannot spend at the rate of £12,500,000 without being brought to the verge of ruin? The honorable gentleman appealed to this statement of the sum thus expended; has he forgot what we expended in the period of the war? We are told there was a great famine; that is true, and large are the sums that have gone out of the country in payment for imported provisions; but is it not the system of free imports that has drawn the gold out of the country, and brought on this distress? It is not the high price of corn; the price of corn in the last seven years of the war, averaged, I think, 94s. 6d., and yet we were enabled to raise and spend every year, £70,000,000 sterling, and more, upon an average, in taxes alone, whilst in loans, we raised and spent in those same seven years.

I think, above £180,000,000, that is £26,000,000 a year more. And yet, were we poverty-stricken then? Was England then a spectacle of bankruptcy and shame? Was England crying out that she was ruined, and could do no more? In the last year of the war—in 1815—we were able to raise a property tax £15,000,000; we were enabled to send 207,000 regulars and 80,000 militia into the field; we were able to pay 140,000 seamen and marines; and now are we to be told that we cannot pay 303,000 railway laborers, without bringing the country to the verge of ruin? It is well for the Government to raise this cry against the railways; it is well that these free-traders who promise so much should have some scape-goat on which to visit all their sins. But how is it that we look around us and see in the United States of America, in Belgium, in France, in Prussia, in Bavaria, and in Russia, railway operations (so far as the Continent is concerned) not inferior to these, and the same dearth prevailing, and yet these countries are not bankrupt. We have got within these few days the speech of King Leopold, of Belgium, and he congratulates his country that the famine being over, Belgium has got through her financial crisis far more successfully than neighboring counrries. We have the speech of the King of Holland to their High Mightinesses the States General; he, too, congratulates them upon the favorable state of their finances, and the prosperity that is showing itself again. Three months ago, when the harvest was yet scarcely completed, we had the speech of the Minister of Finance at Paris (M. Dumon), who congratulated the country upon the fine harvest, as we have thanked Providence for the fine harvest here; he was at that time asking the sanction of the French Chamber for a loan of £10,000,000 sterling; he entered into the discussion of what would be needed from the government for the French railways; he stated the sum altogether at £64,000,000, and he stated the large sums that had already been spent; but did he speak of poverty and bankruptcy?—Did he speak of a falling revenue, and of manufactures and laborers out of employment? No; he congratulated the country that every year, from 1833 onwards to 1840, the revenue of France had been annually increasing by something like £400,000; but since the State had assisted private industry, by these large advances upon railways, in the last seven years, the revenue of France had been annually increasing by the amount of 23,000,000 f., which is about £953,000 a year; and he congratulated the Chamber, that the momentary depression which had existed in the year 1846, on account of the famine, was already passed away, and the revenue of France was again upon the ascendant. I am reminded of the state of the French funds. See what is the difference:—the French three per cents., which used to stand about 13 per cent. below the English, are creeping up to the English funds, and now stand but 9 per cent. below our three per cent. Consols. Look at Prussia, and you see the same thing—an annually increasing revenue, her population in the last 30 years since the war increased by one half, her debt reduced almost to nothing, the country, every year, able to pay off a large portion of her debt, and her exports annually increasing.—Look at the other states—look at Bavaria, and you find the same thing. Bavaria is remarkable for its encouragement of railways and other measures; and I think the exports in the last ten yesrs have more than doubled; her trade has increased in the proportion of 9 to 4; she is annually able to pay off a large portion of her debt, her revenues enormously exceeding the amount of her annual expenditure. Of Russia, it may be said, that the famine did not extend to that empire; but what do we see in the case of the Emperor of Russia—him of whom we used to hear that he was so poor that it was impossible he should ever go to war? Why, we are looking with anxious impatience to the determination of his Imperial Majesty, glad to receive a contribution of some £5,000,000 to the funds of Western Europe; and yet we read the other day that his Majesty, instead of finding his coffers much denuded, has discovered since the spring that no less than £3,500,000 of gold has flowed into his coffers. How is it, that the same causes have not had the same effects on continental Europe, that we are told they had on England? What is the difference between this country and foreign countries? Why, there are two great differences. Not one of these continental powers has abandoned the old national principle of protection of their own industry—not one of these countries has consented to be so easily parted from its privileges and advantages—not one has consented to reduce the import duties upon the goods of foreigners, without asking some equivalent in return. They are prosperous; their mills are not standing still, their artizans are not thrown out of employ, their industrious population are not cast for subsistence upon the poor rate. They, on the contrary, are carrying on their manufactures to the exclusion of England; and, at this very moment, their manufacturers are purchasing the cotton of England—purchasing in Liverpool more cotton than at any preceding period, and purchasing it at a loss to the British merchant—purchasing it at 1½d per pound below the price at which it is selling in any other country, where it is either consumed or produced—at 1½d. per pound below the price at which it can be purchased in Charleston or New Orleans, and imported to Liverpool. In the last six weeks, I know, the merchants of Liverpool have exported 22,000 bales of cotton, at a loss of £88,000, and, in the preceding periods of the year, they exported cotton at a further loss of £100,000, to be a premium, a bonus, a bounty to the foreign manufacturer to come here and beat Englishmen in their own market. Is this because we have more cotton than we know what to do with in this country? Far from it. For eight years past the stock of cotton never was so low in Liverpool as the present time. It is acknowledged on all hands. The gentlemen on my right know it. In has been acknowledged that a short cotton crop is one of the causes of the great prevailing distress. Your manufacturers cannot carry on their trade because the price of cotton is so high, and cotton so scarce. They are as much starved for want of cotton as they have been starved for want of corn. Yet what, after all, is the spectacle which England now presents?—Why, that of an exporting country of cotton, the raw material of her own staple manufacture. It it, then, a want of cotton that produces all this distress? No; it is the want of credit. It is your restrictive monetary laws. It is your cruel Bank Charter Act—an act passed, by anticipation, as we are now led to suppose, by the Elbing letter, with a view to correct any too great spirit of commercial speculation—an act that is to make things in England artificially cheap, at a time when your foreign imports are taking all the gold out of the country, and foreigners will not take your manufautures in return—an act wnich, after the gold has been drained from you, is to bring back gold to England by making everything in England artificially cheap.

Mineral Resources of the United States.

We have often had occasion to speak of the mineral resources of this country. We have had but one opinion, in years, in relation to this important subject, and the proofs of the number, extent, variety, and richness of our mines are constantly accumulating. Our mines of coal, iron, copper, lead, silver, and gold, will prove, when properly developed, equal, and probably superior in extent and richness to those of any other country on the globe.

The following interesting description of a visit by an intelligent gentleman, to the mineral region of North Carolina, will give an idea of the untold riches of that region. It is from the Greensboro, N. C. Patriot, but we find it in the American Mining Journal, published in New York.

Mines and Mineral Resources of North Carolina.—A friend in North Carolina has sent us a copy of the Greensboro' Patriot, containing a long communication over the signature of "Beaumont," upon the mineral resources of Western North Carolina, from which we make the extract which follows:

I visited the Washington lead mine, near Lexington, in Davidson county. This mine was accidentally discovered by picking up some specimens of lead and silver in a small creek near by. In company with Mr. Greenfield, the gentlemanly superintendent, (at whose house I was entertained,) I made a visit to the depths below, and was perfectly delighted as I wended my way, candle in hand, through the dark subterranean passages. The great variety of specimens that met the practised eye will more than compensate for the trouble of descending these long ladders (the entire depth of the shaft is 200 feet.) The following specimens of minerals are found here, viz: carbonate of lead, yielding 75 per ct.; sulphate of lead, 70 per ct.; carbonate of lead, with a mixture of copper and silver; phosphate of lead; glass carbonate of lead; white carbonate of lead, needle form; zinc in endless profusion; blue vitriol or sulphate of copper; and sulphate in abundance. I saw here specimens of the

phosphate of lead for the first time, and they are truly beautiful. It is the only mine in America which is yet known to have produced this description of mineral. I have with me several rich specimens, which, if you could see, would give you an idea of the minerals of North Carolina. The lead of this place contains 200 ounces of silver to the ton, and 100 pennyweights of gold. The principle of oxidising the lead, and the facility with which the metals were separated, were to me very interesting, as my previous knowledge was only theoretical. The mine during one year of its existence, with an actual capital of only $50,000, actually cleared twenty-five thousand dollars. This vein is owned by a company from Philadelphia, who are constructing an engine for pulverizing the ore, which will save the horse power previously employed, and facilitate the operations perhaps fourfold.

At the depth of 160 feet there has been found an argentiferous ore, which produced $100 per ton in equal quantities of lead and silver, after deducting the expense of smilting. And also on the same level were found masses of rich blue galena, worth $1000 per ton.—This ore is uncommonly rich.

I have been politely furnished with the following note from the president of the mine, written some time since, in reference to this argentiferous lead.

"Dear Sir—I have delivered 4277 pounds of argentiferous lead from our mine to the refining furnace on Monday last, from which I furnished to the United States mint a 'test bottom' of silver, weighing 850 ounces. The return from the mint this morning gives the value of this silver at 1,053 15 dollars, and of the gold extracted 446 10.

Yours respectfully,
Wm. Blackburn, President.
To Richard C. Taylor, Esq., Phila.

The next mine which I visited is situated in Rowan county, 14 miles from Salisbury, and known as "Gold Hill." This is a very interesting place, not only on account of the gold, but especially so in reference to the population which has been attracted here to procure business, etc. Three years ago this place contained two or three log huts, and now there is a population of 700 souls. This place originally belonged to two or three individuals, but recently purchases have been made by the operatives which have increased the number of proprietors. Those who lease a privilege of mining, pay one-seventh of all they make to the proprietor, equal to 14 per ct. There are eight different mining interests at this place, all doing well. I understood from Mr. Randolph, one of the proprietors, that they averaged 50 per ct. upon their capital, and some had even done better.

Near Salisbury, in the same county, there is one of the best quarries of granite that I have ever seen, I think the quality superior to the New Hampshire or Connecticut. It is of a bluish cast, mingled with dark brown particles, which, when finished off with the chisel, is really beautiful.

When the Danville railroad shall be completed and a connection formed through N. Carolina to Charlotte, the people of Richmond may avail themselves of the benefits of this quarry for constructing various kinds of buildings, etc. Now they depend upon the north for the article, and are largely tributary to her in this respect.

There is a bed of iron ore in Lincoln county, called "Big Ore," which is supposed to be inexhaustible. It is of a fine quality, and easily worked. There is one also in Gaston county, near Lincolnton, called "Yellow Bank." To work these ores there are in Lincoln county three furnaces and three forges—in Catawby county two forges, and in Gaston county three forges, one furnace, and a rolling mill and nail factory. The rolling mill and nail factory has been recently sold for $75,000, and is now rented on a lease of $4,500 per annum. The gray ore which is found in abundance, is said to be the best; it is so easily converted into iron that both the yellow and magnetic ore which are also found in abundance here, are not used. The gray ore can be converted into iron without the use of lime.

Within two miles of Lincolnton there is found a large body of plumbago. I have not made any experiments with it, and cannot tell any thing of its qualities.

Three miles from town there is a fine bed of red chalk of as fine quality as I have ever seen. I think it might be used for lead pencils (red) or perhaps for painting purposes.—If it answers for paint (and I have no doubt but that it will) it will certainly be very valuable. The extent of this vein has not been ascertained.

In company with Mr. H. Cansler, (who resides near Lincolnton) I visited several gold mines contiguous to the town. These mines are of two descriptions, viz: the branch or surface deposit, and the regular gold ore, or vein mine. The branch deposit is easily worked, by a very simple process, i.e., by throwing the gravel containing the metal into a rocker, perforated with holes. This rocker is kept in motion by one person;—meanwhile the water is streaming upon it in a current sufficiently large to give it a thoro' washing. The gold and the particles of gravel, etc., descend through the holes, and the coarse part is washed away. By the use of quicksilver in the bottom of the rockers, the particles of gold become united, and are removed at the close of each day. The regular ore which occurs in the bowels of the earth is very often quite difficult to be obtained. The cost of engines, ropes, buckets, etc., together with the immense labor of building up the entire shaft with firm, heavy logs, or green wood, is quite an item of expense, but in most cases has been found to pay well. In our travel over a tract of country of about 2000 acres, about 35 or 40 veins of gold were found, all of which I have not a doubt would pay well to work them. In one place where Mr. Cansler had experimented to about 20 feet deep, ore of the richest quality was found, supposed to contain $20 worth of gold to the bushel of ore. Mr. Johnson and Mr. Cansler found specimens of gold in a branch deposit, near this rich ore, which weighed 338 pennyweights. These were in a solid mass. There are two branch deposits near this place, now being slightly worked; one by Mr. Slade and the other by Mr. Summer. At Mr. Slade's they average one and a half pennyweights per day to the hand, and expect to make 5000 pennyweights in the year with ten hands. Each pennyweight is worth 96 cts.; so you will percive that each negro will yield $480 per annum gross; whereas in planting, they cannot at best average more than $30 gross per hand, and I am told that not one planter in five has done even this much.

There is a large bed of limestone which lies contiguous to this town, and is ascertained to be of a good quality. The white sandstone is also found to be unlimited in extent.

A regular quarry of fine variegated marble, has been found near the limestone. It is susceptible of the highest polish, and will no doubt prove equal to the real Egyptian.

Dr. Burton, of Lincolnton, has recently discovered a vein of lapis lazuli (ultra marine.) It is a beautiful blue color, and may no doubt prove highly valuable, especially should it work well with oil. Prof. Ure, in his dictionary of Arts, etc., p. 1268, says:—"its price in Italy a few years ago was five guineas the ounce." The trouble of preparing it is inconsiderable. A piece of the ore has been forwarded to Dr Draper, editor of Kain's Chemistry, (an English work re-published in New York,) who has analysed it and pronounced it to be of good quality. I believe that this is the first lapis lazuli ever found in America.

A specimen of elastic sandstone was shown me by a gentleman of the bar residing in this place, to whom it had been presented.—This was taken in Yancey county, in this State. It is perfectly plyable, and can be bent similar to a piece of India rubber.

I visited the mines in Gaston county. The one known as "Asbury's," has been operated since last May, and promises well. They have three shafts from 20 to 25 feet deep.—Some of this ore is extremely rich. I saw specimens (some of which I have) which will yield 100 pennyweights per bush. The average yield is over two pennyweights per bushel. The veins are from four to six feet wide, and contain in addition to gold, iron and silver. McCarty's mine is about a mile west of Asbury's. This is extremely rich. In some cases 256 pennyweights of gold have been taken in a day with three hands, by simply washing the finest quality of ore. This same ore, upon the third washing, produced 23 pennyweights to two hands per day and it now remains to be ground and washed the fourth time, and I have no doubt will amply repay the labor. The shaft at this mine is only 56 feet deep. There are two other mines here which can be very profitably worked. The appearance of the ore at these mines is very dissimilar to that found at Gold Hill. It is a pure white quartz rock beautifully transparent, and is studded with small particles of pure gold.

In Montgomery county there is a gold mine which yields a considerable quantity of

gold, but the quality is not so pure as that found in Lincoln county. This ore is of a light and brittle character, easily ground.—They have an engine which operates twelve mills; each mill can grind about 75 bushels of ore per day. It is supposed that this mine will prove exceedingly profitable on account of the great facility with which the gold can be separated from the ore. This is called the "Russell Mine," Besides this, there are several smaller ones near by in the same county.

In Caldwell county several veins of gold can be found, but only one is at present being worked. This is called Baker's Mountain, and operated by Messrs. Callett & Smith.—They are doing a profitable business, altho' the metal only averages about 72 per cent. to the pennyweight. I saw several specimens of this gold, and think that in quality it falls quite short of a fair average, as compared with most of the veins in this section of the country.

In the counties of Rutherford, Burke and M'Dowell, a great quantity of gold is known to exist. The names of the more prominent mines are as follows, viz: "Whiteside's" "Rain Creek," "Jamestown," "Bracket Town," "Brindle," "Wilkinson," "Dawsey." These are surface and deposite mines, and have been very partially worked. But partial as have been the operations, they have extracted from them upwards of *two million six hundred thousand dollars worth of gold.* Many deposits known to exist have never yet been worked. There are a great many other natural advantages connected with these countries, but as this is designed to be a mineral letter, I must not digress.

In Rutherford county, there is a mine called the "Willis' Mine," known to contain lead to a large extent. Gold, copper and silver have also been discovered in this mine.

The "King's Mountain" mine, in Gaston county, near the high peak of the mountain and immediately on the waters of King's creek, is an immensely rich mine for gold. The vein occurs on a slate formation, and varies in breadth from 18 inches to 6 ft. This gold is worth 96½ cts. per pennyweight. In the commencement of operations at this place one hand has been known to produce as much as $100 per month.

Col. Hake, of Lincolnton brought me a day or two ago, some white, bean like substance, which he took out of a spring one and a half miles from town. He supposed that it was chalk or white clay, but I immediately pronounced it to be magnesia of the finest quality, and my subsequent experiments and examination fully convenced me that it was the *pure native magnesia.* I collected about a pint of it, which I now have with me. The spring is bold and pure, and the water suffiiently impregnated to give it a most delightful taste. This is the second vein of native magnesia known in this country. The other is found near the Sybil Cave in New Jersey. The Catawba spring, in this county, and "Willow" spring, are both possessed of the finest mineral qualifications for summer resorts. I might give their medicinal properties, but as I have already exceeded a proper length for a letter, I must conclude. by simply remarking that, in reference to the elements of wealth found in this section of North Carolina, "the half hath not been told." BEAUMONT.

P.S. Some years since a piece of *solid gold* weighing *twenty eight pounds, avirdupois,* was found in Cabarrus county, near Concord, I think that it is now in the Philadelphia Museum.

Mining Interest, Copper, etc.

The Detroit Free Press says:—"We learn that the schooner Iena is now on the flats with a cargo of 44 tons native copper, for the Boston and Pittsburg Copper Company, which goes to Pittsburg to be smelted.

This company have shipped this season as follows:

Per schooner Iena, in the spring	44	tons.
" Propeller Goliath	180	"
" Do. Chicago	120	"
" S. B. Sam. Ward	52	"
" Schooner Iena	44	"
And the Champion will bring	50	more.
Making in all the amount	490	tons.

This is native copper, and averages over 80 per cent., and is sold in Boston, at 16½ cents per lb., of copper, the purchaser smelting it at his own expense. The net proceeds of this ore will amount to about $115,000, and the expense of working the mine for a year are just about $50,000, leaving for dividend this year $65,000."

It must be admitted that the produce of some of the Lake Superior copper mines is astonishing; and we are induced to believe that we have much to learn yet in relation to the riches and extent of these mines.

The following article from the Journal of Commerce, contains much of interest and therefore we give it a place in the Journal, believing that it will be acceptable to a majority of our readers.

Much has already been written about this great mineral region. Many statements have been based upon vague rumor, or a hasty glance along the shore. These have been trumpeted far and wide by interested persons, for the sole purpose of creating an excitement in wild speculation. On such reports little or no dependance can be placed. On the other hand, many of our learned men, who are much better acquainted with rocks in books, than in mines and mountains, have condemned the country on the first slight inspection, without waiting for results. On their representations little or no reliance is to be placed. Yet it ought not to be difficult to ascertain the facts. Several eminent geologists have explored the territory in question, and some of them at least, are entirely disinterested. Conversing with one of the latter the other day, who, by hard labor as a miner and explorer for the last three years, and by his geological science ecpecially in the department of minerals proper, is probably as well qualified as any other man living, to impart the information desired, we persuaded him to allow us to use it for the benefit of our readers. The substance of his statement we here subjoin.

In the first place, the idea that the "whole country is filled with copper, and that one cannot go through the woods without stumbling over it," is absurd. Equally foolish is the idea that where pure native copper is discovered, there is no good reason to expect important deposits of copper ore. This latter idea is often advanced by persons who affect to be learned in the business of mining and the doctrines of geology, but when closely questioned, their experience is found to vanish into the opinions of others, or narrow down to the working of one or two mines of yellow copper in clay slate or killas; whereas, had they ever visited the mines of Cuba, or even seen Carn Brae, or Fowey Consols in Cornwall, they would have come to a different conclusion.

In the second place, although copper is not to be found every where on Lake Superior, its existence in vast quantities, enclosed in strong, well defined metallic veins, cutting through the whole substance of the rocky strata for miles and miles inland, is no longer a *problem.* The discovery of some twenty or thirty boulders of native copper loose upon the surface, the larger of which varied in weight from one to four thousand pounds, has led to the discovery of masses of pure copper in the above-mentioned veins varying in weight from 2,000 to 80,000 lbs. Numerous veins yielding copper of this description have been explored, both in length and depth to such an extent as to leave no doubt of the existence of immense similar deposites. Many consider those deposites of native copper very extraordinary, and so they are; but they are not altogether unparalleled. At the Copper Mine river, in the far North West, copper boulders are far more numerous than on Lake Superior. Similar deposites of native copper have been found very abundant in the Mednoi Islands; also in Iceland, Russia, Cuba, South America and Japan. The mines of Suruga, Kyno, Kuni and Atsingo, have yielded "amazing quantities" of native copper. Cargoes and cargoes have been shipped from thence by the Dutch and Portuguese. And not only cargoes and cargoes of copper, but, (if we may credit history) whole ship-loads of gold and silver, derived from the same source, and found in connection with the copper. This extraordinary product formerly constituted 'the wealth of many whole provinces," and is at present by no means exhausted. Here then we have, as it were, a "fac simile" of Lake Superior, except that the copper of Suruga contained a large percentage of gold. Other things being in harmony, should we not reasonably expect to find gold with copper on Lake Superior? We answer yes; and can add, on the authority of our respected informant, that it is thus found. On making a cross cut on Prince's vein on the main land, and North shore of the Lake, native copper was detected, which, however, soon gave way to vitreous or grey sulphuret of copper, and that in turn to metallic silver, with which is found a portion of gold. Instead of this being something extraordinary, it is just what ought to be expected in order to make out the harmony of nature, whose laws are uniform and constant. The occurrence of silver on Lake Superior is nearly as frequent as that of cop-

per; although not in so large quantities.—Our informant has seen it in different localities, on both sides of the lake, too numerous to mention. It invariably accompanies the native copper. It is also found associated with galena, at Thunder Cape, on the north shore. It is found in connection with Blende in other places. It has been found in loose masses of several pounds' weight, particularly at Eagle river; also in amygdules and masses, in the green stone; in calcareous spar, quartz and laumonite, and, in short, under such a variety of circumstances as to leave no doubt that it exists co-extensively with the copper. As the silver exists here in the same connection in which it has been found in the Altai Mountains, and the province of Bingo and Kattami in the Empire of Japan, (which places have yielded incredible quantities of this precious metal,) it is not unreasonable to expect a similar result on Lake Superior. At least twelve different localities of silver have been discovered on the Canada shore of the Lakes during the last year. Some of these deposites, together with the Copper Falls, Cliff, Eagle river and several other mines on the south shore, cannot fail to be worked for their produce of silver alone, independent of the copper with which they are connected. Besides the whole extent of Point Keweenon, silver has been found in numerous veins on Isle Royal, and in the Ontonagon and Black River districts, in sufficient quantities to give every reasonable assurance that the Lake Superior country is one day destined to become to the United States what the Altai have been to Russia, and the provinces of Japan to the Dutch and Portuguese.

Not a few, and especially Cornish miners, have expressed great fears that there would not be found a supply of the ordinary yellow copper ore on Lake Superior, in addition to the native copper connected with the silver. Such persons may rest assured that there is no just foundation for their fears; for if they travel inland, westward and southward from Chocolate river, they will find a country embracing about two thousand square miles, very similar to Cornwall, bounded on the north by the Huron mountains of granite, and frequently interrupted by similar ridges while the vallies are filled up with killas or talcose and clay slates, caples and elvans, accompanied with quartz veins loaded with mundic, rich gossans, and not unfrequently with yellow copper and carbonate of iron. In other places, in the same region may be seen large courses of specular and hydrous oxide of iron, similar to that of Padstow and Lostwithel, in Cornwall. So close is the resemblance of the rocks in this region to those of Cornwall, that were it not for the heavy growth of timber, one might easily imagine himself located either at Carlstock and Kit-Hill, or Dalcoath and Carn Brea. Both the yellow and the horse flesh copper have been found in this region, and also lead in cross courses. Here then is a second Cornwall, with 120 miles of lake coast, abounding with good soil, good lumber, good fisheries, and large flowing rivers supplying numerous water powers, in addition to its rich mineral resources. Time would fail to mention the numerous discoveries of gray copper out of the region last described; such as Lake La Belle, Montpelier mine, and others. The black oxide, the red oxide, the blue and green carbonates, the rich gray sulphuret, as well as the yellow bisulphuret of copper, have all been found on the American shore of the Lake, near the native copper and will all be found more abundantly by further excavation. No fears, therefore, need be entertained on account of a deficiency of copper *ore*.

But the most important question to be examined is this: are these mines likely to yield a profit to adventurers in working them? *In the present state of things*, our informant says, No. With the exception of a few localities favorably situated, the great body of these lands might as well be in the moon or Jupiter, as far as profit in mining is concerned. And the reason is at once palpable and obvious. In the first place, the United States Congress have given no encouragement to agricultural pursuits in this country, although there are several millions of acres immediately southward of the middle and western portion of the Lake, offering many attractions and capable of sustaining a dense farming population. Mining, in order to be profitable, should, as far as possible, be sustained by agriculture. In Cornwall, almost every miner has his little plantation of potatoes and garden vegetables He can occasionally trap a hare, or gain a supply of herring which frequent the coast, and consequently afford to work much cheaper than he could otherwise. If there were a good agricultural population settled on Lake Superior, provisions would not cost more than half their present price.—But the want of provisions and supplies for mining is not so much an obstacle as the want of facilities for transporting such supplies over the Lake George flats, and around the falls of St. Mary's river. The delays, difficulties and extra expenses of transphipment at the Sault of St. Mary, are sufficient, of themselves, to exhaust all the profits of mining, especially when we take into consideration the shortness of the season, the prevalence of fogs and adverse winds, and the want of light-houses and harbor accomodations.—A steamer will frequently cross the Atlantic before a schooner can pass from the Saulte to Whitefish Point, a distance of only about 40 miles. But suppose all these obstacles removed, there is still another more weighty objection to the working of these mines, in the minds of those who have capital to adventure, viz: the high price of the lands. While the rich lead lands of Missouri, Iowa, Illinois and Wisconsin are thrown into market at $1 25 per acre, why should the copper lands of this inhospitable region be sold, or rather offered, at $2 50 and $5.00 per acre? The effect of this act of Congress has been to drive both capital and enterprise over to the British side of the Lake, where mineral lands, equally as good, can be purchased *in fee simple* for eighty cents per acre. Should Congress ever re consider this matter, we are confident they will be no less liberal than the British Government. Should they put the lands at $1, or $1.25 at most, per acre, and throw them open to both farmers and miners, they would soon realise millions, instead of thousands in the sale. We cannot doubt that Congress will soon open a ship canal around the Falls of St. Mary, and also build light houses along the shore, especially when they consider that the American coast on this Lake exceeds in extent one half of the Atlantic coast of the United States, and that its fisheries are scarcely less important than those of Newfoundland.

Probably some eight or ten million pounds of pure copper, or what is called ore of a high per centage, and would yield that amount when smelted, have been raised or excavated on Lake Superior, More than half of this has been obtained from the Cliff Mine, the property of the Boston and Pittsburg Co. Nearly one thousand tons have been taken out during the past year, which equals, already, one-twentieth of all the copper produced by Great Britian and all her colonies.—(See Grylls's Mining Sheet, for 1847.) Much of the silver ore of Prince's large vein on the north shore is found to yield from one to two per cent. of silver. The Copper Falls and other locations on the southern shore, and Montreal and Quebec, and other locations on the northern shore, give promise of similar riches, A new state is about to spring into existence, called Minesota, whose port of entry will embrace the Western extremity of Lake Superior. Excellent coal lands lie between that harbor and the Red River settlement. What then ought to be the action of Congress in reference to these important national resources.

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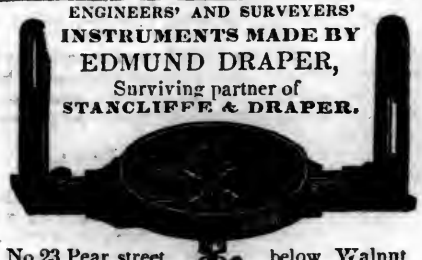
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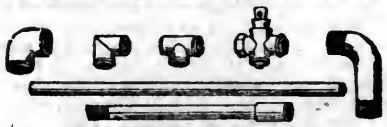
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N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

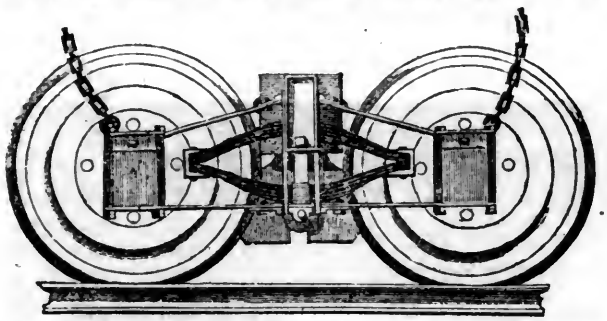
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Agents.
1y48 77 Pine St., New York.

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup'r Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3¼	8	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¾	5	2	6¼	9	4	13¼	1-2	7¼
16	2¾	4	3	6	8	8	10¼	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
Philadelphia, Pa.
1y25

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

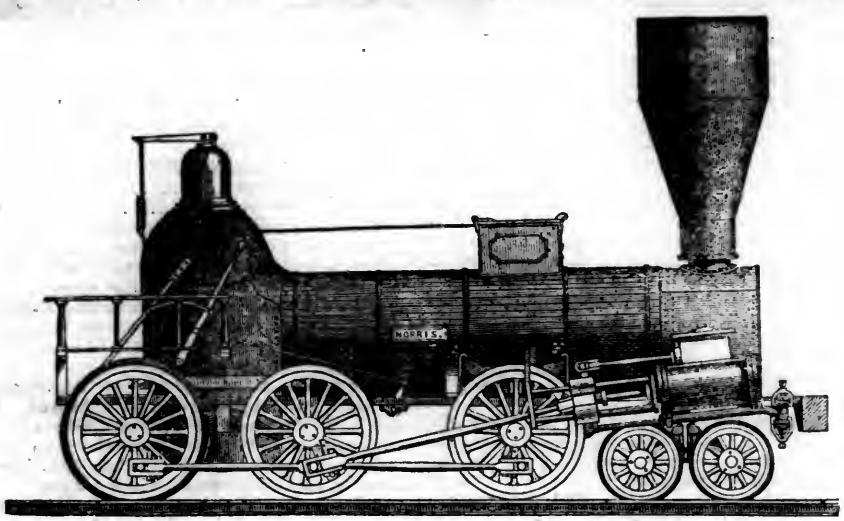
PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

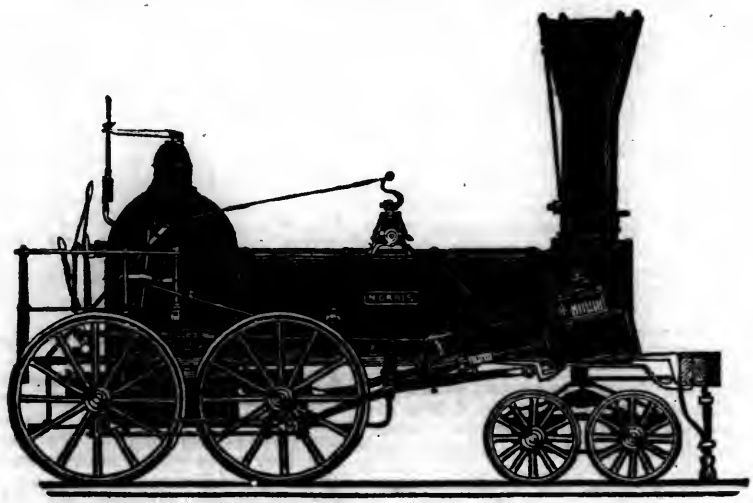
Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





MANUFACTURE to order Locomotive Steam Engines of every plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS & BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

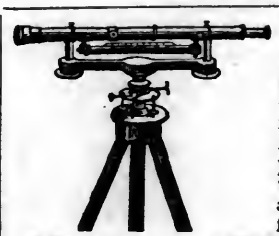
Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,

a45 Paterson, N. J., or 60 Wall street, N. York.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,

12tf Vine St. Wharf, Philadelphia.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,

12 Platt street, New York.

JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,

1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO exrcute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,

Philadelphia.

ROBERT NICHOLS, Agent,

26tf No. 79 Water St., New York.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, mos. from delivery of brick on board. Refer to

James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N J

25,000 to 30,000 made weekly. 35

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,

Willow St. below 13th,

Nov. 10, 1847. [tf.] Philadelphia, Penna.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.


WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
5tf DAVID S. IVES, Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pitusburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12 Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

125 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12¾ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4¼ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot..	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Goffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44-1y

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

Between Macon	and Decatur and immediate points.	0 22½	1 54	1 05	0 81 0 86
	and Knoxville & intermediate points	0 22½	1 54	1 10	0 76
	and Chattanooga.				0 61
Between Augusta	and Decatur and intermediate points.	$0 21	1 70	1 15	0 85 0 90
	and Knoxville & intermediate points.	$0 21	1 70	1 20	0 80
	and Chattanooga.				0 65
Between Charleston or Savannah	and Decatur and intermediate points.	$0 32	2 20	1 35	1 05 1 10
	and Knoxville & intermediate points.	$0 32	2 20	1 40	1 00
	and Chattanooga.				$0 85

1st class.—Boxes of Hats, Bonnets and Furniture per foot.....
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Scythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs..
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks, or Crates of Crockery, Hardware, and other heavy articles not enumerated below.
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.....
Per 100 lbs.....
Cotton.

Merchandize shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.
Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot.....	$0 20
Second class, per 100 lbs.....	1 20
Cotton, per 100 lbs.....	0 55
Third class, per 100 lbs.....	0 60
Fourth class, per 100 lbs.....	0 50

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS, 1y48

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No 3] SATURDAY, JANUARY 15, 1848. [WHOLE No. 604, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, January 15, 1848.

Index and Title Page to Vol. XX, 1847.

The Index to volume *twenty*, for 1847, which has been a little delayed, is forwarded with this number.

Missing Numbers of Vol. XX, 1847.

There are *three* things which we consider important just now, viz:—

1st. That those who wish to obtain missing numbers of the Journal, should apply soon.

2d. That those, who are now subscribers, will recollect, that, with a limited circulation, a Journal devoted mainly to a single interest, can only be sustained by prompt payment—we mean *in advance*, of course, as no one will believe that subscribers to the Journal delay payment.

3d. That we should have a large accession of new subscribers to our list!!

Reading Railroad and its Business of 1847.

We referred, in a recent number, to the business of this road, and its prospective increase. We now have the following statement which we find in the Ledger, made at the meeting of stockholders, on Monday the 10th inst. From this, it will be perceived, that the receipts for the year just past, have been $2,002,945, of which $1,698,664 was received for carrying coal, and the balance for ordinary freight, passengers and the mails.

The Ledger says:—Yesterday the annual meeting of the stockholders of the Reading railroad co. was held at the office of the company, in this city. We understand that the report of the business of the concern for the past year is highly flattering, and shows the company to be doing a most enormous business. The profits which equal twelve per cent., have been expended in permanent improvements on the road, and the stockholders, by vote, recommended that a dividend in stock, to that amount, be made to the stockholders.

The receipts from coal transp'd were		$1,698,663 99
" " "	passengers.....	156,201 45
" " "	freight on mdze ...	136,219 92
" " "	trans. of mails, etc.	11,860 26
Total.....		$2,002,945 62
All expenses amount to.....		1,100,406 50
Balance of profits, to pay interest and dividends.....		$902,539 12

The total receipts of the company for the year, ending on the 1st of December, 1846, were $1,909,-115, showing an increase of $102,139. The net increase of 1846 over 1845 was $530,490. All expenses in 1846 amounted to $862,320—all expenses for the year 1847, just closed, $1,100,406, showing an increase of expenditures of $248,086."

We have heard the policy of issuing stock to the shareholders, in lieu of cash, as dividend, questioned and disapproved; but if it is necessary to increase the *working stock* of the road, to meet the demands upon it for transportation, we see no mode more proper than to use the earnings of the road for that purpose, and to give to the shareholders an equivalent in the stock of the company.

We have not yet received the report, and cannot, therefore, speak further in relation to it—but when it comes to hand we shall publish it and speak of it as we think it deserves.

Columbus (O.) and Lake Erie Railroad Co.

We learn that the grading of this road, northward from Newark, Licking county, has progressed as rapidly as was anticipated when put under contract last May. The following extract from a letter, dated Newerk, Jan. 8th, shows that Sandusky, as well as Cleveland, will have a railroad communication with Columbus. We are not, but should like to be, in possession of the views of the promoters of these two lines, as to the point of connection, or crossing—as well as in relation to the proposed point of connection with a line from Columbus, eastward, to the Ohio river. Will some gentleman, in that region, familiar with the matter, and the localities, give us the desired information?

The letter referred to says:—"The grading of 20 miles of this road, from Newark north, was contracted for in May last, and is nearly completed; and the residue of the distance between Newark and Mansfield, being about 40 miles, was placed under contract on the 1st of October last, and is progressing as rapidly as the state of the weather will admit.

We hope (if the season should be favorable as to weather) to have the superstructure and bridges ready for the laying the iron in all this year, 1848, on the whole distance between Newark and Mansfield, and other parts of the road in progress, in the meantime. We use the flat bar, 2½ by 1 inch. The delivery of timber, for superstructure, has been commenced, and the laying will be commenced in April next."

Portland Iron Company.

The Portland company is the only establishment in Maine engaged in the manufacture of locomotive engines, and from its connection with the Portland and Montreal railroad, has led us to watch its movements with much interest. At the time of our visit to Portland in the autumn, both the president of the railroad and the iron company, were absent at Montreal on business relating to the road. We recently wrote to a friend in Portland, asking of him information on the subject, and from his reply we gather the following facts in relation to the Montreal railroad, and the iron company, which will be interesting to our readers.

The Portland and Montreal railroad was projected in 1844; charters were obtained in both Maine and Canada, in 1845, and the surveys commenced the same year. More than $1,000,000 was subscribed to the stock of the Atlantic and St. Lawrence, or Maine company, and about $1,500,000 to that of the St. Lawrence and Atlantic, or Canadian corporation.

A convention was entered into by the two companies, in April, 1846, stipulating that the road should be constructed on the same general plan and system throughout its entire length, and A. C. MORTON, Esq., appointed chief engineer of the whole line.

As soon as the surveys would admit of it, a section at each end was placed under contract, and the work commenced at Portland with imposing ceremonies, on the 4th of July, 1846: in which the governor of Maine and a delegation from the Montreal company, took part. In Maine, 47 miles are far advanced toward completion, and in Canada, 45 miles are in a state of similar forwardness, and the road is to be opened for business at each end, the coming spring.

The railroad being commenced, the gentleman

who projected it, then proposed that works be established to furnish its iron and machinery; but the railroad company declined to embark in the business and he, therefore, procured a charter January 8, 1846, establishing "*The Portland Company*," with a capital of $250,000, with authority to manufacture iron, and any sort of machinery. Stock to the amount of over $150,000 was readily subscribed, principally by the large stock holders in the railroad, and the company organized by the choice of directors, Nov. 10th. 1846. John A. Poor, Esq., was appointed president, and Horace Felton, Esq. superintendent. Though having an independent organization, it is considered an immediate auxiliary, if not a part and parcel, of the railroad enterprise; and it entered into contract with the railroad company for furnishing its engines, cars, and other machinery.

As soon as organized, the company proceeded at once to the erection of the necessary machine and car shops. They purchased, and occupy, a lot extending 1200 feet upon the shore, where is found the deepest water in Portland harbor. The railroad possess in front of their lot, across a bridge 3000 feet in length, laid with a double track, and large vessels can be afloat at all times outside against this bridge. Inside of the bridge the company's lot embraces from 10 to 12 acres. The terminus of the railroad, at the foot of India street, is 1500 feet from the iron company's works; and all the land and flats between India street and the Portland company's lot and Portland harbor have been appropriated to the use of the railroad. Thirty acres of land and flats are thus included, inside the bridge. Outside the bridge wharves and docks can be constructed to such an extent as to give facilities for business superior to those offered at the terminus of any other railroad, within our knowledge, yet constructed. Beside the Montreal business, the great Eastern road to Walterville and Bangor enters the Montreal road 27 miles from Portland, and it is already under contract to Walterville 54 miles from the point of embranchment; and the accommodations are made in anticipation of a great freight road.

To construct for and supply the railroads in Maine, their engines and other machinery, was the design of the Portland company. Their principal machine shop is 150 by 62 feet, of brick, two stories, 16 feet and 13½ feet in the clear; already supplied with a large amount of the most approved and valuable tools and machinery. The smith shop is of brick, 75 by 62 feet, with a trip hammer and 13 forge fires, driven by a fan blower. The smoke flues are surmounted with an iron hood or cap, and carried under ground into the main stack, which is an octagon of most elegant and graceful proportions and finish, 10 feet diameter at the base, and 4½ feet at the top, 102 feet 8 inches high. The arrangement of the large fires is new, but works to admiration from the strong draft of the stack.

The foundry is of brick, 75 feet by 62, with two cupolas, capable of turning out 12 tons at one heat, driven by a fan blower.

These three buildings are connected, and are the finest specimens of architecture, for such purposes yet erected in the country; having slate roofs, iron gutters, and made fire proof on the outside. One steam engine drives all the work in these three main shops, the exhaust steam being used to warm the machine shop. The boiler house is a separate building, 34 by 22 feet, fire proof. The shop for boiler making is 90 by 40 feet, and a forge mill 80 by 60 feet, is to be put up for puddling and forging axles, etc. A car shop of brick, 200 feet by 50, is now going up, 3 stories high; and a second one 120 feet by 50 is to be finished at once, beside the necessary wood houses, store houses, etc. The office is 50 feet by 24 feet, finished with suitable safes, a clearing room, Directors room, Superintendent's room. Accommodations for cheap transportation are furnished by the railroad, canal boats, and vessels, all of which are used as convenience requires.

The question of rolling rails awaits the movements of the iron market in England.

The shops were opened for work in October last, and now employ near 100 hands. It is supposed this number will be doubled in the course of a few months. Beside the engines and cars for the Montreal railroad, the company have a large amount of orders for work to go elsewhere.

It does not require great sagacity to see that the works already commenced at, and terminating in, Portland, will soon give a new impulse to business there, and that the real estate in, and about, the city will increase in value, in consequence of those works, beyond the calculations of the most sanguine, and the influences will not stop at Portland, but spread over the entire state, giving new life and energy to the people—such, at least, are their influences elsewhere, and we know of no place more likely to be benefitted by them than Portland.

Mails--Comparative Cost of Transportation in the U. States and in England.

In the debate upon the carrying of the mails, Mr. Jones, of Tennessee, is reported to have said that "the country has made the experiment of cheap postage, and thus far it has succeeded well, far beyond what most of us expected, and fully equal to the hopes of its most sanguine friends. In England, a similar trial has met with a like result."

This is true, and he might, and *ought to*, have said that this very important result has been *mainly owing to the railroads*—and *but for* the railroads the measure could not have been accomplished within a quarter of a century to come.

Mr. Jones also says, in speaking of cheap postage in England, "there they have reduced the postage to a penny a letter, *and there scarce a railroad that transports the mail, makes to the government any charge at all for doing it. On some lines they charge a penny a mile, and in one instance, as I am informed, when they are paid any sum worth considering, it is when a railroad line is run in the night, and expressly and solely for the transportation of the mail.*"

We do not know upon what authority Mr. Jones makes these statements, but certainly we have never heard or seen any evidence, nor heard the assertion before, that such were the facts, but we have often seen *documentary* evidence of the reverse—and although we cannot now lay our hand upon the reports of all the English railroads, for 1846—we give three instances where the mail service is paid for, and at a much higher rate, too, than "*a penny a mile*"—though they are, comparatively, not first class routes.

The first is the South Eastern railroad, 66 miles from London to Dover. This company received, for carrying the mail, *six months, up to January* 31, 1847, £3,646, or $36,460 a year—equal to $552 per mile per annum!

The next is the *South Western* line, from London to Southampton, 76 miles. Their report for six months, to December 31, 1846, shows the receipts of £4,920 for "*mails and carriages.*" This is an awkward union of things, but we may assume, at least, *two-thirds* of it as for the mails—which gives $32,800—or $431 a mile.

And the third is the Dublin and Kingston road, of *six* miles in length, which received, for the year, ending February 28, 1847, £500, or $2500—equal to $416 a mile.

The "Great Western" railroad, from London to Bristol, put down in their half-yearly report, up to December 31, 1846, "mails, expresses, etc., £10,917," or $109,170, for the year; but, unfortunately, in this, as in many other reports, the mails are coupled with other matters, which prevents us from giving the precise amount paid for carrying the mails—yet we have given facts enough to show that Mr. Jones has been misinformed in relation to the cost of carrying the mails, in England.

We have given these facts from the reports of the different companies, all made within a year, and shall give others from time to time—that the railroad interest may have them when wanted—as we are quite satisfied that there is a fixed determination in certain quarters, to force a reduction of the present rates paid to railroad companies; a measure which may, possibly, be all right, though we should prefer to see a more liberal spirit evinced toward an interest which has contributed so much more to the benefit of the *millions*, who have *not*—than to the *hundreds* who have--furnished the capital.

With all the light thrown upon the subject by those who took part in the debate, we are not yet convinced of the right of the government to control the railroads, to which they have not contributed a dollar, any more than they have over the post coach and horses of the stage owner, or of the mules of Mr. Cave Johnson, on his plantation, in Tennessee; and we much doubt the justice of asking the company to pay to the "Bay line" the *damages* for the government's taking the mail from a route where it ought never to have been sent.

We would respectfully recommend that a system be adopted, by order of Congress, which shall fix the rate of compensation, for post coaches, at *five miles*, or other speed, per hour; and then let that price be increased on railroads in proportion to the *speed* with which the mail is carried—that is, pay more for 20 than for 15 miles per hour, and more for *thirty* than for *twenty* miles—in this way *good service* may be secured *for a fair compensation.*

The Post Master General and the Railways.

We regret to find that this question is not likely to be brought to a satisfactory and speedy termination. We had hoped that Congress would direct the department to resume the old service, at the old rates; and thus remedy the difficulty, and restore order and certainty in the transportation; but we have been disappointed.

As we wish to preserve a record of the leading features of the discussion, we give the joint resolution, with the first amendment of Mr. Jones, of Tennessee, and also a concise synopsis of the various propositions of members of the House, which we take from the Richmond Times.

"The joint resolution was read as follows:

"*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled*, That the Postmaster General be, and he is hereby authorized and directed to make engagements with the Richmond, Fredericksburg, and Potomac railroad and steamboat company, for the transportation of the great northern and southern mail between the city of Washington and the city of Richmond, and that he pay for said transportation the highest price now paid by the post office department for transporting the mail once per day on any other railroad and steamboat route in the United States, and no more; and that the said Postmaster General be authorized to allow to the contractors, under the recent arrangement, such an equivalent as, in his

judgment, shall be fair and equitable for the routes hereby dispensed with.

"Mr. JONES, of Tennessee, moved to amend the resolution by striking out all after the word "more," in the 11th line, and inserting—

"*Provided*, That in making such contract or engagement with the Postmaster General, the said Richmond, Fredericksburg, and Potomac railroad and steamboat company shall agree and engage with the Postmaster General to pay to the post office department such amount or sum of money as, in his judgment, shall be a fair and equitable equivalent to the contractors for transporting the mail from Baltimore to Petersburg and Richmond on the bay line, and to the contractors from Washington to Richmond, under the recent arrangement, as will indemnify said contractors by reason of the discontinuance of the said routes hereby dispensed with."

The amendment of Mr. Jones, if adopted, would give the Postmaster General "an opportunity of teaching the railroad company a lesson, if it also gave him power to enforce its intent."

On Friday the 7th the subject was resumed, and "the first vote was upon the proviso offered by Mr. G. W. Jones, to the resolution reported from the committee on the post office and post roads, the effect of which was to authorize the Postmaster General to contract with the railroad company, *provided* the company should pay the present contractors such damages as he should think proper.

"This proviso was adopted in committee by a vote of 80 to 65.

"Mr. Charles Brown offered an amendment which was ruled out of order, simply confirming the decision of the Postmaster General.

"Mr. G. W. Jones offered an amendment which he afterwards withdrew, directing the Postmaster General to make a new classification of the railroads into four classes: the first class to be paid $200 per year per mile; the second $150; the third $100, and the fourth $50. Mr. Jones said he would take another occasion to reach his object, which was nothing less than to reduce the compensation paid the railroads all over the country. The public will perceive in this proposition, the true secret of the present difficulty. The Postmaster General is bent on a general reduction of the pay, and the railroad company feeling, that to yield the ground they occupied under the award of President Tyler, would be to give Mr. Johnson's design its first foothold, have stoutly resisted, and we believe are resolved to resist to the end.

"Mr. Botts offered a verbal amendment (which he afterwards withdrew) for the purpose of getting the floor for a few minutes' explanation.

"Mr. Hall, of Missouri, submitted the following amendment:

"*Provided*, That nothing in this resolution shall be so construed as to require any increase of expenditure in the post office department."

"Mr Hall took the ground that he would vote for no increase of expenditure until his own part of the country was better accommodated. His amendment was adopted on a division—84 to 62.

"The vote was next on Mr. Meade's substitute, which we have published, directing that the mail be restored at $237 50 per mile, with 15 per cent. additional for night service, (a salvo for a railroad in Mr. Meade's district, on which the service happens to be in the night.)

"Mr. G. W. Jones moved to strike out the 15 per cent. from Mr. Meade's substitute, which was agreed to, and then the substitute as amended, was rejected, without a division.

"Mr. Goggin, (not Mr. Botts, as was first stated,) then submitted an amendment, directing the Postmaster General to renew the contract with the railroad company, at the rates existing before the 1st of July last. This amendment was rejected, yeas 49, nays 107.

"Mr. J. A. Rockwell moved that the committee rise and report to the House, with a recommendation that the joint resolution be recommitted to the committee on the post office and post roads, with instructions to inquire and report whether any, and what, further legislation of a general character is required in relation to the transportation of the mail by railroads and steamboats.

"Mr. McKay suggested a modification—adding the words: 'Also to ascertain the terms upon which the department can be released from the contract with the bay company for the transportation of the mail; also the terms upon which a contract can be made with the Richmond, Petersburg, and Potomac railroad company, for the transportation of said mail.'

"Mr. Rockwell accepted the modification; also, a modification of Mr. Hall, of Missouri, inserting the words, 'or any other mode,' after the original instructions.

"Mr. Jamieson moved that the recommitment be recommended, with instructions to the committee 'to report a bill granting equal mail facilities throughout the Union.'

"This was rejected, and then Mr. Rockwell's amendment also—yeas 85, nays 92.

"The committee then rose and reported to the House, the resolutions with the amendments that had been adopted, viz: the proviso of Mr. G. W. Jones, requiring the railroad company to pay indemnity to the present contractors, and the amendment of Mr. Hall, providing that the resolution should induce no increase of expense in the post office department."

On Monday the 10th, the subject was resumed in the House, when "Mr. Goggin said he wished to get rid of the resolution as it now stood, and therefore moved to recommit the whole subject to the committee on post offices and post roads, with instructions to report such facts as have come before it in the matter.

"Mr. Broadhead said the better way to get rid of the resolution would be to lay it on the table. He therefore made that motion. On which the yeas and nays were ordered, and stood, yeas 68, nays 124.

"On the passage of the resolution as amended, Mr. Jones of Tenn. called for the previous question; and the call had a second.

"The question, on agreeing to the amendment offered by Mr. Jones of Tenn., was put and decided by yeas and nays, and lost. Yeas 97, nays 96. The speaker voted in the negative, and declared the amendment lost.

"The vote on the amendment offered by Mr. Hall, of Missouri, was now put, and on it the yeas and nays were ordered, and they stood as follows:—Yeas 101, nays 91. So this amendment was adopted.

"The question was now put on ordering the resolution to be engrossed, and decided in the negative. So the resolution was killed."

The editor of the Times says, "our readers will perceive by the report of the proceedings of Monday, that Mr. Jones' substitute was rejected in the House by the vote of the speaker; that Mr. Hall's amendment was carried by a small majority, and that finally the resolution itself was rejected, being voted against, we presumed, by both parties.

"The whole question therefore remains as unsettled as at first; the House having spent as much money in its discussion as would have been required to transport the mail on the railroad for six months. The *per diem* alone of the 228 members amounts to $1,824. When to this are added expenses of clerks, door keepers, fuel, stationery, and the like, the cost of this profitless debate, occupying some five or six days, cannot be less than $15,000, which is about half the whole price of the transportation between Richmond and Washington."

Thomas Gray, the English Railway Pioneer.

The following letter is from the gentleman who claims to be the first in England who projected, and advocated, railways as a means of transporting merchandise and for travel.

We would not pluck a leaf from the chaplet which should, and *will*, in after times, adorn the brow of those who devised, and were instrumental in introducing railroads into use; but we cannot allow our own countrymen, STEVENS, and EVANS to be forgotten, when the question of who were the originators of railroads is agitated. By a reference to the proceedings of Congress, in December, 1811, there will be found, if we are not mistaken, an able and interesting communication, from Col. JOHN STEVENS, of Hoboken, in which he describes, not only a *railroad*, but also the locomotive engine, almost as accurately as if he had had them in use before him. The time is not yet, for the history of railroads, and their originators, to be written; but it will come when full justice will be done; and certainly a less mead of praise and gratitude than is awarded to the discoverer of the *art of printing*, or of the *new world*, would not be equal and exact justice.

The Railway Record says, "the following letter from Mr. Gray, we copy from our excellent contemporary the *Weekly Times*:"

SIR,—In reference to my former communication (see your paper of the 19th September,) I beg the insertion of the following brief remarks:—The deplorable state of the railway share market arises, chiefly, from the extravagant method of working the locomotive engine. It is really painful to witness the reckless manner in which the share holders' money is squandered away; for, in order to economise the power of the locomotive steam engine, terms especially adapted to the respective commercial purposes should have been the leading features on the adoption of the railway system. It is quite absurd to see the locomotive engine impelling merchandise or luggage trains, on the same expensive principle as the passenger or mail train. If you have recourse to mechanical agency, as recommended by me on the opening of the Liverpool and Manchester line, every locomotive engine is capable of impelling five times the load now forwarded; but, if share holders will persist in closing their eyes to this fact, they must continue the slavish dupes of their servants, who have been forewarned over and over again.

Passenger trains, requiring great speed, might always precede the luggage trains, which should immediately follow in constant succession; but the still more perfect system would be, to confine each branch of commerce to its respective line, in both directions, and then, on perfectly straight and level lines, no accidents could ever happen, and all collision of trains would be entirely prevented.

The conveyance of merchandise of every description, on properly constructed railways, will far surpass, in annual revenue, the receipts for the conveyance of passengers; this never-failing source of trade, under the present miserably defective and extravagant system of railways, is almost prohibited.

So long as there is a paid directory leagued with engineers and the manufacturers of engines, rails, etc., etc., so long will you remain in the same pitiable plight as the share holders of the South Devon line, which is irrecoverably ruined, and left as a beacon to unfortunate share holders, who all seem now doomed to the like awful dilemma.

In support of my remarks, I now refer to the *Mechanics' Magazine*, vol. 15, page 190, which contains the following extract:—

"In 1811 Mr. Blenkinsop, of the Middleton colliery, near Leeds, took out a patent for the application of a rack or toothed rail, into which wheels turned by the engine were to work, and thus produce a progressive motion, and shortly afterwards he erected some engines on this plan on the Middleton colliery railway.

"They worked well, and to this day they continue to work well; indeed there never could or ought to have been any doubt upon the subject.

"For the conveyance of great weights, the rack rail must manifestly have an immense advantage over every description of plain rail, no gripe by mere adhesion of surface can ever match the gripe of a good set of teeth.

"Mr. Gray, of Nottingham, has strongly advocated the adoption of a mixed railway system—plain rails for speed—and toothed rails for heavy weights—and we incline to the opinion that, when economy comes to be more regarded by railway proprietors (as it will be ere long,) *this is the system which will be found most advantageous in practice.*"

From Blenkinsop's railway I date the origin of my national railway system of grand trunk railways, in direct and level lines throughout Great Britain and Ireland—see my work, entitled "Ob-

servations on a General Iron Railway"—and therefore I flatter myself that my fellow-townsmen of Leeds, *the place of my birth*, will not fail to claim the honor of a plan, during my lifetime, of which their children's children will, in after ages, be proud to boast.

The day is AT LAST arrived when these enemies of mine, who have stolen my plans—turn tables and sliding frames (*to be seen at every railway station,*) and palmed them off to the public as their own inventions, will now have the mortification to confess their guilt, and be sorry for their cruel conduct towards me. Here I am a living monument of their disgraceful behaviour, which shall be recorded as a warning to future ages. The secret poison is at last found out—*the jealousy of the engineers is pleaded as an excuse for not rewarding me!!*

It is only necessary for me to mention this circumstance to justify my claim upon public generosity. I am, sir, your obedient servant,

THOMAS GRAY, the Railway Pioneer.

Exeter, October 16, 1847.

Hartford and New Haven Railroad.

Twelfth Annual Report.

We give this report in full, showing a large increase of business during the past year—and a very flourishing state of affairs. The extension of the line through the entire valley of the Connecticut river, and into Canada as well as to New York must contribute largely to the business of the Hartford and New Haven road.

REPORT OF THE DIRECTORS.

Twelfth Annual Report of the Board of Directors to the Stockholders of the Hartford and New Haven Railroad Company.

The income of the company for the year ending August 31, 1847, is as follows:

From passengers		$177,133 00
" freight		90,681 32
" rents, storage, steamboats, expresses, p. o. department, and all other sources		56,910 96
		$324,725 28
The total amount of current expense chargeable to the cost of operating and maintenance of the road	$130,426 59	
The amount of interest paid on bonds and loans is	36,824 87	
	$167,251 46	
From the receipts		$324,725 28
Deduct expenses and interest		167,251 46
Balance of net income		$157,473 82

Cash on hand Sept. 1st, $65,824 44.

The receipts of the road have been materially greater than that of any preceding year. The actual increase has gone considerably beyond the estimate. It is also satisfactory to know that this increase is derived from no accidental or transient source, but from causes of a permanent character and steady in their operation.

The amount received from passages the last year is		$177,133 00
The amount received from passages the previous year		155,061 01
Increase		$22,071 99
Or 14 and one fifth per cent.		
Amount received for freight, 1847		$90,681 32
" " " 1846		61,250 73
Increase		$29,430 59
Or 46 and one third per cent.		

The number of passengers transported between all the stations the past year is 226,595. The previous year, 191,270—showing an increase of 33,325. It is gratifying to state that no accident, of a serious character, has occurred in the transportation of this large number of passengers.

The expenses of the year have been necessarily large. In addition to the rebuilding of the bridge over Connecticut river, all the important bridges between Hartford and New Haven have been reconstructed in the most improved and substantial manner. Large expenditures have been made on the engines and cars, and the equipment of the road is in every respect in as good condition as at the commencement of the year. An amount sufficient to cover any deterioration has been charged to the current expenses.

The increasing business of the road has required an addition to the stock of engines and cars. Two locomotives have been ordered and are now nearly ready for delivery. Two passenger cars, two second class cars, and thirty-four eight wheel freight cars have been put upon the road the past year.

The railroad bridge over Connecticut river was carried away on the 13th of October last. This disaster gave rise to apprehensions of prolonged interruption to business during the winter, which might seriously affect the income of the company. Happily these fears were not realized. Within six weeks after the destruction of the bridge, it was rebuilt and ready for the passage of the trains. The rapidity and energy with which this accident was repaired is creditable to the contractor who had the work in charge. The new bridge has been constructed in the most secure and substantial manner, and the cost charged to the current expenses of the year.

The branch railroad to Connecticut river was completed and put in operation on the opening of navigation in the Spring. The entire cost of the branch, including track, depot, and a valuable real estate on the bank of the river, is $85,607 64. The transportation done upon it is very large, and has fully justified the anticipations which led to its construction, and a large amount of business has been secured which otherwise would have been lost to the road.

At the last annual meeting, it was determined by a vote of the stockholders, to reconstruct at once the track between Hartford and New Haven with heavy rail. To provide means for this object, a sale of 3,000 shares of the reserved stock was authorized, and pursuant to authority given at a special meeting of the stockholders for that purpose, this stock was sold at a limit fixed by the company. The iron, of the best description, and weighing about 57 lbs. to the yard, was bought on favorable terms. The work of renewing the track was commenced in the month of April, and without any material interruption to the business of the road, was completed, with the exception of three miles, in the month of June. This small portion, which was necessarily postponed by a delay on the part of the contractor to furnish the iron, has been resumed and will shortly be finished. When this is done, it may be confidently stated, that the entire road from New Haven to Springfield, both for permanence of construction as well as its capacity for a high rate of speed, will rank with any other in the country. The sum of $286,946 37 has been expended to the 1st of September, in the reconstruction of the track; to this am't is to be credited the sum of $25,257 42, the proceeds of the sales of the old rails. When the accounts are completed the cost will be found not to have exceeded the estimate.

The steamboat line in which this company are interested as proprietors, formerly received $8,000 per annum for mail service. At the expiration of their contract, about two years since, they offered to continue the service on the same terms; the postoffice department however saw fit to reject this offer. Altho' they have, during a part of the time, performed an additional service, in the transportation of the daily mail between New York and Boston, their compensation has been cut down to the diminished rate of less than six thousand dollars a year. Dissatisfied with the unreasonableness of this reduction, the steamboat line recently notified the department, that if the former and usual rate of compensation was not allowed they should decline the service. The department persisted in its refusal, and placed an opposition boat on the line, to carry the mails. It is obvious that the dictates of prudence and a due regard for their own welfare forbade this company to sustain in any way an interest got up and acting in direct hostility to their own.—They could not be expected to co-operate with the department in destroying their own business. As a measure of self defense, they have therefore determined not to carry the mails to or in connection with the opposition line, established by the postmaster general, and a notice was accordingly given to that effect.

Since the last annual meeting, the stock of the New York and New Haven railroad company has been filled up. The construction of the road is now in active progress, and will doubtless be completed during the ensuing year. The completion of this road will supply the last link of the great chain of railroads between New York and Boston. The line thus completed will form, without any question, by far the safest, as well as the most regular and rapid route between those two cities. It will be in a position to command a large portion of the through travel, and as a necessary consequence it cannot fail to bring a large accession of travel to this road.

While a considerable increase of business may be expected at its southern extremity, the prospects of this road are still more encourging in the opposite direction. The extensions of the great line of railroad in progress and projected, throughout the entire valley of the Connecticut, towards the north, are calculated to be greatly beneficial to the interests of this company. The line of railroad extending from New York, through the Connecticut river valley, to Montreal, will be 488 miles in length. Of this line, 99 miles from New Haven to Greenfield are now in operation. Within a year from this time, 205 miles more of this route (including forty five miles in Canada,) will be completed. Of the remaining distance, 144 miles are provided for, and will probably be completed within two years from this time,—leaving only the distance of forty miles between Bellows Falls and Greenfield, for which hitherto no provi-

sion has been made. To meet this deficiency and supply the last link in this great chain of railroads, efforts are now making which it is hoped will be successful. It is an object which cannot be too strongly commended to the attention and favorable consideration of all who are interested in this road. The completion of such a route, traversing, at it does, one of the most opulent, fertile and populous districts in the whole country, cannot fail to affect in the most favorable manner, the future business and revenues of this company, both from the central position which this road will hold upon the extended line, and also from its control of two distinct points of connection with tide water navigation, the one upon Connecticut river, the other on Long Island Sound. The board have declared a dividend of four per cent., payable October 1st. The dividends of April 1st and October 1st, 1847, are made from the earnings of eleven months, ending August 31st, as follows:

Receipts for eleven months	$290,662 08
Deduct expenses and interest	152,313 64
Net income	137,348 44
Dividend April 1st	55,300 00
	82,048 44
Dividend payable October 1st	75,200 00
Balance	$6,848 44

All of which is respectfully submitted,
By order of the Board,
C. F. Pond, *President.*

SECRETARY'S REPORT.

To the Directors of the Hartford and New Haven Railroad Company.

Gentlemen:—The following summary exhibits the business on the books of the company the past year;

Cash on hand 1st September, 1816		$26,662 60
Freights	$90,681 32	
Passages	177,133 00	
Rents, storage, steamboats, expresses, p. o. department, and all other sources	56,910 96	
		324,725 28
Sale of six bonds		6,000 00
" 3000 shares stock		282,000 00
Cash borrowed for branch company		58,051 36
Sale of steamboat Kosciusko, in part		2,500 00
Debts collected		12,827 65
Sale of old railroad iron		25,257 42
		$728,024 31
Paid.—Interest	$36,821 87	
Dividends	111,060 50	
Land, buildings, and machinery		2,713 10
Cars and locomotives		30,538 30
Repairs of old road		7,822 20
Repairs of extension road		3,968 55
*Materials and labor on locomotives and cars		20,883 82
*Wood, coal, and oil		23,933 46
Salaries and labor		36,495 91
General expenses		10,331 90
Rebuilding bridges, old road		3,700 00
" Connecticut river bridge		19,292 53
Reconstruction of track with T rail	286,946 37	
Branch company		48,948 00
Extension road, (for land, and freight depot, at Springfield, etc)		11,351 89
Old debts		519 20
Steamboat J. Cooley & Co		252 07
Depot repairs and improvements		1,617 20
Cash on hand	$60,171 72	
Cash in Union bank, N. Y.	5,152 72	
		65,824 44
		$728,024 31

*Including stock on hand.

Balances due the company on account	8,473 60

The expenses of operating the road the past year are,

For repairs of old road	$8,386 74
" repairs of extension road	3,968 55
" materials and labor on locomotives and cars	18,704 55
For wood, coal, and oil	27,929 21
" salaries and labor	36,495 91
" rebuilding bridges, old road	3,700 00
" rebuilding Conn. river bridge	19,292 53
" general expenses	10,331 90
" depot repairs and improvements	1,617 20
	$130,426 59
For interest paid on bonds, etc	36,824 87
	$167,251 46

There has been expended on the extension road,

For road and roadway	729,987 89
Depot buildings	28,366 90
Real estate, not necessary for railroad purposes	32,805 75
In hands of agents, to pay for land	2,238 40
	$793,359 03

18,800 shares of stock have been issued, of which 3000 shares were sold the past year, and issued the 15th of May.

547 bonds of $1000 each, have been issued.

Horatio Fitch, *Secretary.*

Hartford, September 13th, 1847.

DIRECTORS CHOSEN FIFTEENTH SEPTEMBER, 1847.

The following named gentlemen were elected directors and officers—

Charles F. Pond, David Watkinson, Hartford, Conn.; Elisha Peck, Cornelius Vanderbilt, New York City; William Dwight, Chester W. Chapin, Springfield, Mass.; Ezra C. Read, New Haven, Conn.; F. R. Griffin, Guilford, Conn.; James S. Brooks, Meriden, Conn.

OFFICERS ELECTED FOR THE ENSUING YEAR.

Charles F. Pond, *President.*
Horatio Fitch, *Secretary.*
James H. Wells, *Treasurer.*

Parliament and the Railway Companies.

House of Commons (Last Night.)

The Chancellor of the Exchequer rose, pursuant to notice, to move for leave to bring in a Bill to extend the time for the purchase of the land and completion of the works upon railways. If the debate upon the first night of the Session had taken the course which he expected it would, it would have been his duty then to have stated to the House the reasons which had induced the Government to pursue the course they had done, and also the views they had formed of the causes of the present commercial pressure. Among those causes he should have included as one, the great absorption of capital by the demand of Railway Companies. He did not mean to say that that was the sole or principal cause of the pressure which had recently existed. He thought that it was a great mistake to attribute any great result to one single cause, and all that he asked of honorable members, who might entertain opinions different to his own, was that, for this night they should only admit that the absorption of capital by railways had been one of the causes which had led to the production of the present state of commercial embarrassment. (Hear, hear.) It would have been more satisfactory to him had he been able to state to the House the whole case at once; but as it was necessary that no time should be lost in bringing forward this measure, it was not a matter of choice, but of necessity, that he should undertake this portion of the case at once. One of the many points which had frequently pressed upon him, was the inconvenience which commerce had sustained by the absorption of the floating capital of the country. (Hear, hear.) The floating capital of a country is that which is employed in carrying on the ordinary operation of agriculture and commerce, and in their further developement; in the erection of buildings which were required from one end of the country to the other; and also in the construction of permanent works, including docks and railways, which ultimately contributed to the welfare and improvement of the country. If that floating capital were too rapidly converted into fixed capital, a pressure must of necessity arise upon the commerce of the country. Floating capital was employed in reproductive works, whereas fixed capital sunk in permanent works, however useful they might ultimately be, would only produce for a considerable time an annual dividend or division of profits. The case could be easily illustrated. Suppose, for instance, the case of a farmer conducting a large farm, and employing a certain amount of capital for the purposes of his farm, he might employ the surplus of his capital in useful works, such as draining and fencing; but if he abstracted any portion of the capital necessary for carrying on the ordinary duties of the farm for the purpose of those improvements, however valuable they might ultimately prove to his farm, still the ordinary operations of his farm would, no doubt, be crippled. The same illustration would apply with equal force to the case of the manufacturer. Now, what was applicable to an individual farmer or commercial man was applicable to the whole community; and there could be no doubt that the whole country had latterly been pushed for money, in consequence of the immense amount of railway speculations that had been going on. Railway Companies had been borrowing money, the commercial world had been borrowing money, and the result of all this competition of borrowers was to make money more difficult to be got at. He did not know that he could better state that part of the case than by using the words of the *Economist* of last Saturday, wherein it was stated that large supplies of capital, which hithe to had been applicable to commercial purposes, had latterly been absorbed in railways; and the consequence was, they had not the large sums at their disposal now that they had formerly, nor had the bill-brokers the means at their command to make advances upon dock warrants, or good paper of any sort. Now, he believed that to be a true statement of the case, and, from all the sources of information open to him, he had collected the same conclusive facts. Having accurately stated the course which events had hitherto taken, he would now put the House in possession of the various documents he had been able to collect which in any way bore upon this subject. He would premise, however, that the subject was so complicated that it was utterly impossible to obtain strictly accurate

information. He thought, however, that the accounts he was about to read to them would approximate to the truth as near as accounts possibly could; and, although they might not be correct within a million or two, they would afford them a tolerable good idea of the amount of speculations that of late years had been going on in railways. Now, so far back as 1826, no less a sum than two millions and a half was authorised to be raised for the purpose of investment in railways. In the period extending from 1826 to 1835, Parliament authorised £19,000,000 to be raised. In 1836 and 1837, which were years of great commercial prosperity, Parliament authorised thirty-six millions and upwards to be raised. In 1844 and 1845, the sum authorised to be raised for the purpose of railways was seventy four millions In 1846, Parliament authorised no less a sum than one hundred and thirty-two millions to be raised for the purposes of railways; but in the present year of 1847, the amount authorised to be raised for the purposes of railway was only thirty-eight millions. From a calculation made by Mr. Porter, it appeared that there remained to be raised, after the end of 1845, £145,000,000, to which must be added the £38,000,000 empowered to be raised last year. From a calculation made by the Railway Board, which he should presently show to be based upon facts, it appeared that the capital authorised by Parliament to be raised—

In 1840 was	£4,000,000
In 1841 was	3,500,000
In 1842 was	6,000,000
In 1843 was	4,000,000
In 1844 was	18,000,000
In 1845 was	69,000,000
In 1846 was	124,000,000
In 1847 was	38,000,000

Here were the sums authorised in these years to be expended upon land and the construction of works in the years mentioned—each year a greater amount being authorised than in its predecessor. The noble lord opposite (Lord G. Bentinck) had stated (as we understood) that the average expenditure during the last two or three years had not amounted to more than £12,500,000. Now this was contrary to the fact. Now, another statement, showing the expenditure as nearly as could be ascertained, proved that the expenditure of Railway Companies had borne heavily lately, and for a considerable time past, upon the resources of the country, but latterly that expenditure had borne upon the country with great and increased severity. The expenditure, from the calculation of the Board, was estimated as follows:—

In 1841	£1,407,000
In 1842	2,980,000
In 1843	4,435,000
In 1844	6,100,000

and in the first half of 1845, £3,500,000; in the second half, £10,600,000; making £14,100,000 for the year. The expenditure for the first half of 1846, was £9,800,000, and during the last half, £26,685,000; or for the whole year, £36,485,000; and for the first half of 1847, £25,700,000. This might be tested by reference to facts. So much, then, for the statement of the noble lord. For the last eighteen months, from January, 1846, until the beginning of the autumn, the expenditure could not be estimated at less than £62,000,000 The half-yearly statements of the Commissioners tallied with this calculation, with the exception of a few hundred thousands. The expenditure of late years had gone on increasing in an extraordinary manner, and that caused the Railway Companies to press upon available capital, and had in some measure led to the commercial pressure. In 1845, the expenditure on railways was £14,000,000, in 1846 it was £33,000,000, and the expenditure in 1847, if things had been allowed to have gone on the same way, would have probably amounted to £64,000; in 1848, to £70,000,000; in 1849, to £90,000,000; and in 1850, to £110,000,000. Now, it was sufficient for his purpose to show that the extraordinary outlay in railways having had a considerable effect in the depression of commerce, the representations that had been made to him and the Government would have sanctioned a much stronger course than the Government now proposed to pursue. They were even called upon to put a stop to the proceedings on railways, but the Government did not think it advisable to adopt such a course. The measure he was about to propose was not one of a compulsory nature, it being thought by the Government to be extremely injudicious to adopt such a course. The object of the bill he was about to introduce was, to give to Railway Companies an extension of time for the purchase of land for the completion of their works. He proposed, with respect to railways that were being constructed, to relieve them from the obligation of buying the land, and completing the works in the time prescribed. The only persons injured would be the landowners, and he proposed to give them compesation.

Mr. Hudson—How are the damages to be ascertained?

The Chancellor of the Exchequer said the damages would be assessed in precisely the same way as damages with respect to land was ascertained. With regard to railways in which the works were not commenced, he thought that a stronger course might be adopted with respect to them. He proposed to extend to them the time for the purchase of land; and he proposed to enact that the directors of such companies should not be empowered to commence the works, without the consent of a certain proportion of the shareholders. With regard to those bills which were introduced last session, and bills proposed to be brought forward this session, he proposed to appoint a committee, to which all those bills should be referred, in order to determine which of these bills should be proceeded with. It was obvious that there were many bills involving merely deviations, or mail extensions of lines which would not involve any large outlay of capital, which it would be desirable to pass this session. He thought that it would be very desirable that no bill involving a large outlay should be allowed to pass this session. They had all, perhaps, to take some blame to themselves for the many bills which had been allowed to pass upon former occasions. In earlier years, it would have been a very difficult task to persuade the House to endeavor to check any of these numerous railway bills. A committee was appointed, in 1846, to inquire into the subject; but no suggestion had been made by that committee. After he (the Chancellor of the Exchequer) had been appointed to office, several friends waited upon him, and urged him to adopt some measure to check the progress of railway bills through Parliament. He did not at that time see how his suggestion was possibly to be carried out. Opinions upon that subject had materially changed latterly, even among railway companies themselves; and he expected that he should receive the cordial support of many of those companies to his measure. He had communicated with the chairman of several of the lines, and had found them most anxious to co-operate in checking the demand for the construction of railways, and he hoped that the course which he was about to take would receive general consent. A bill had recently passed to facilitate the dissolution of Railway Companies whose acts had not been obtained; but in cases where the bills had been passed, or the works partly commenced, the company had entered into contracts and engagements with landowners and others. He did not think, therefore, that it would be advisable to bring in any measure to allow companies so solicited to release themselves from the obligations they had entered into with numerous penalties.

Mr. Divett—What will be the extension of time?

The Chancellor of the Exchequer then proposed to allow either two or three years beyond the time limited by the acts already passed for the purchase of land or the completion of the works. With respect to the proportion of shareholders, it was immaterial to him whether the power should rest in two-thirds or three-fourths of the whole company. That was a subject which could be discussed in committee upon the bill. He would therefore move for leave to bring in a bill for the extension of time for the purchase of land and the completion of the works of those railways for which acts had obtained the sanction of the legislature, and also for the prohibition, for a limited time, upon the directors of those railways, whose works were not commenced from commencing the same, until the consent of a given number of shareholders had been previously obtained.

Colonel Sibthorp condemned railways altogether, and wished there was not one of them in the country.

Mr. Edward Ellice pointed out the evils of giving such large powers of borrowing to railway companies as had hitherto been done.

Mr. Hudson, for the companies over which he presided, denied that they had approached the limits of their powers of borrowing money. He also emphatically denied that railway expenditure had caused the commercial distress. He would not object to the proposed measures, which he thought, might perhaps appease the public feeling, if they did nothing more.

Leave was given to bring in the Bill, and the committee was also agreed to.

Galvanic Railway Signals.

We learn from Herapath's Journal, of 13th Nov., that experiments have been successfully made with a galvanic apparatus for railway signals. The description is as follows, viz:

NEW MODE OF COMMUNICATING BETWEEN GUARDS AND DRIVERS OF RAILWAY TRAINS. On Monday morning, experiments were made on the Brighton and Chichester Branch Railway of an invention by Messrs. Brett and Little, of Furnival's-inn, mentioned in our last, for giving the means of communication between railway guards and drivers. Messrs. Brett and Little having offered the invention to the London, Brighton, and South Coast Railway, every facility was immediately afforded to them for a trial of its merits by Mr. Kirtley, the superintendent of locomotives; and, some minor experiments having been made daily during the past week, on Monday the experiment was applied to a whole train. The whistle affords a ready means by which the driver can attract the attention of the guards; but, as that belongs exclusively to the driver, it was not considered advisable to interfere with it, and Mr. Kirtley thought the new-invented alarum of Brett and Little, which is quite distinct, far better than a suggestion he had heard of liberating the whistle. What has long been a *desideratum* has been a means by which guards can communicate with the drivers; and various schemes have been adopted on different lines of railway, but all unsuccessfully. In order to supply this defect, Messrs. Brett and Little propose the following plan:—On the engine, and close to the driver, is placed an alarm bell of a peculiar but simple construction, not liable to get out of order, or to be effected by the oscillation of a train, and requiring to be wound up as a clock only about once a week for ordinary use. When not required for signals, the alarm is prevented from acting by a detent or tail-piece. Contiguous to this is a permanent magnet of the same construction as that used in their electric telegraph, connected with the inventors' patent hydraulic battery, which is placed at the opposite end of the tender. Wires are passed from the alarm to the battery, and thence continued throughout the train by what are called the "safety chains" hanging loose, and coming into action only in the event of a derangement of the "couplers." From chain to chain of each carriage is placed a galvanized wire running beneath the carriage longitudinally, so that the simple operation of hooking the usual safety chains forms a galvanic circuit with as many carriages as are furnished with the connecting wires. At every guard box a pair of branch wires is carried up at the end of the carriage into the box, where, by the simple operation of moving a small handle, the galvanic circuit is completed, the magnet immediately acts on the detent, so as to liberate a disc, and the alarm is set in motion close to the driver. Pairs of branch wires can likewise be carried into every carriage of the train, if thought desirable, and thus a means is afforded to the passengers, as well as the guards, of apprising the driver of danger. In the experiment on Monday morning, the safety-chains were in their usual condition, and it was consequently anticipated that some failures might have occurred, from oxidation rendering the contact of the links, and consequently the galvanic circuit, incomplete. Such, however, was not the case. In every instance the signal was made without a single failure. To avoid, however, the possibility of a failure from this cause, the oxidation of chains long out of use, it is proposed by the inventors that the chains should be galvanized—a very simple and inexpensive process. The driver was directed to indicate that he had heard the bell by blowing his whistle. We were informed it was most successful; indeed, nothing further appears required; it is simple, certain and perfect. Mr. Fountain, who came up with the train expressly, rode on the tender through the Balcomb tunnel, and instructed the guard to sound the alarm which never failed, and was perfectly audible from every part of the tender. There were a great many, curious in these matters, anxious to get a sight of the arrangement on the arrival of the train.

Improvements in Casting Cylindrical Pipes.

Mr. D. Y. Stewart, of Montrose, has taken out a patent for a new mode of casting iron, water, or gas pipes, or other cylindrical tubes; by which a far more superior material is produced, at much less cost than by the usual method. The mould consists of a perpendicular cylindrical iron box, of the required size, with a shaft in the centre, longer than the mould, and communicating with machinery above, by which it is kept revolving, and as it revolves, it gradually rises. At the bottom of this shaft is an instrument, which may be termed a "presser," or "rammer," consisting of an iron block, having inclined tabular faces, of such smaller diameter than the box, as to leave the sand of the required thiakness for the mould. On feeding the sand at the top of the box, it is distributed towards the sides, and the shaft and rammer, gradually revolving and rising, press it with great force against the side of the box, leaving the mould finished and perfectly cylindrical on its arriving at the top, ready for the insertion of the core. The amount of pressure against the sand is regulated by means of a counterpoise weight.

The following are the advantages claimed by the patentee:—"1. A perfectly straight cylindrical pipe, of uniform thickness. 2. No parting or joint of any kind. 3. Dressed at one half the ordinary cost. 4. Less sand used than in any other way, and, of course, easier dried, if required. 5. The castings and sand easier removed from the boxes than in the ordinary way. 6. The flasks, or boxes, better calculated to resist the pressure of the metal than any now in use. 7. This method is the best for casting pipes perpendicularly that has hitherto been employed. 8. The greatest recommendation of all is, the simplicity of the apparatus, which requires the attendance of a boy only, who with my machine, as at present working, turns out easily six pipes, six inches bore, per hour." We understand that two miles of water-pipes have been laid by the patentee at Montrose, and the Town-Council passed him a vote of thanks. Some capitalists have joined the patentee, forming a company, and ground has been secured in Glasgow, where premises will be erected for carrying on the business on a large scale.—*Lond. Min. Jour.*

Specification of a Patent granted to PATRICK MOIR CRANE, *of Ynisceedwyn Iron Works, near Swansea, Iron Master, for Improvements in the Manufacture of Iron.*—[Sealed, April 8th, 1847.]

This invention relates to an improvement in that part of the manufacture of malleable iron where what is called refinery iron is produced, by melting pig-iron in a refinery furnace; and it consists in a mode of employing anthracite or stone coal in the process of making refinery iron. The patentee says he is aware that this has been before attempted, but without success, on account of the peculiar character of the authracite or stone-coal, which is liable to decrepitate and fly off into dust on sudden exposure to heat; now, the present invention consists in subjecting the anthracite or stone-coal to heat, before introducing it into the refinery furnace. The preparatory heating may be effected in any convenient way; and the coal may be used either in an ignited or highly-heated state, or in a cold state (having been first ignited or highly-heated). After such preparation, the coal will bear either the hot or cold blast; and whichever blast be used, the patentee prefers that it should be introduced through two or more small tuyeres, instead of one large one. The refining process is conducted in the same manner as when coke or charcoal is used. In the manufacture of pig-iron by the aid of anthracite coal in the blast furnace, a considerable quantity of highly-heated anthracite coal comes from the furnace in lumps, in that process commonly termed by the workmen "throwing off;" and the patentee either introduces these lumps in a heated state into the refinery furnace, or he preserves them for future use. Or, instead of employing these lumps, the patentee causes the raw anthracite coal to be ignited in masses in pits, kilns, or ovens, and, when thoroughly ignited and heated, he carries it direct to the refinery furnace, or preserves it for future use. Although the patentee has used the anthracite coal alone, other fuel may be employed therewith.

The advantages said to result from the use of anthracite coal, according to this invention, are—that a considerable saving is effected in comparison with the coke of bituminous coal—The cinder contains less iron than that from a refinery furnace worked with the coke of bituminious coal—and in those districts where anthracite or stone-coal can alone be obtained, manufacturers of iron will now be able to refine their iron, which has not hitherto been the case.

The patentee claims, as his invention, "applying, in the manufacture of refinery iron, anthracite or stone-coal, which has been ignited or raised to a high temperature, before introducing it into the refinery furnace."—*Enrolled October*, 1847.—*Lond. Journ. Arts and Sciences.*

Galloway's Rotary Steam Engine.

On Saturday last, we were invited to invited to inspect a rotary engine, invented by Mr. Elijah Galloway, which is now employed to drive the blower of Mr. Tyrrell's furnace, at Deptford. The chief object of the inventor was to obtain a direct rotary motion, the dead point being overcome by the peculiar construction of the engine, which is of 4 horse-power The size of the engine, independent of the shaft and boiler, is about 18 inches diameter, and 9 inches in thickness. It consists of a kind of cylinder, containing five chambers, which are large segments of circles, perfectly separate and independent of one another, but constructed out of the same piece of iron. The ends of the chambers extend, in the interior of the cylinder, to about one-fourth of the diameter. Into this cylinder a moveable frame is introduced, having five arms, which act in the five chambers as pistons in cylinders. The arms are curved in such a manner, that, in moving through the chambers, the points of contact with the sides of the chambers keep them steam tight. Each arm moves in a corresponding chamber, out of which they do not go; by the motion of the arm, from one side of the chamber to the other, a rotary motion is given to the centre of the moving frame, with which the crank end of the main shaft of the engine is connected, and from which it derives its rotary motion. The depth of the chambers is about 4½ inches. They are covered by a plate, at the other side of which the steam-chest is situated. The steam is admitted alternately to the chambers through holes in the plate, in order to propel the arms of the moving frame. The steam enters and passes off from each chamber independently, as if they were so many separate cylinders. It is intended to work this description of engine by means of high-pressure steam. It was stated by the Hon. Captain Fitzmaurice, that the engine had been employed in the Engineer's shop of the Great Western Railway company, as an experiment, during the repair of the company's own engine, and after working there for a fortnight, it was taken to pieces and examined; that there was no perceptible wear on the engine, but on the contrary, that the interior had become case-hardened from use. The engine was stated to be perfectly steam-tight, and its motion and power perfectly uniform at all velocities; that the number of revolutions made in a given time do not perceptibly effect the power; that in the consumption of fuel, it was economical, as compared with the reciprocating engine; that this rotary engine could make 400 revolutions in the time the reciprocating engine could make 200 revolutions, with the same expenditure of fuel. As at present constructed, the steam works to the full in each chamber. We suggest whether some contrivance may not be made so as to cut it off at a certain stage of the stroke to work expansively, and, consequently even more economically. We were informed that a larger engine is to be constructed on the same principle, with a boiler proportionate to its size, when the advantages of the invention will be fully tested. We understand that the authorities in the navy department entertain so favorable an opinion of the invention, that they have applied to the patentees for an estimate of the cost of fitting the Minx, of 300 tons burden, with an engine of 50-horse power, to work a screw-propeller, for which the rotary engine is peculiarly adapted. A space of 3 feet by 2 is estimated to be sufficient for the new engine of 50-horse power, which is computed to give 300 revolutions per minute. It is expected, that the introduction of a rotary engine in this case will effect a saving of 50 tons, as compared with an engine of equal power constructed in the usual manner, not taking into account the saving of space and fuel. If this ingenious invention should prove successful on the larger scale, its adoption will be a great advantage to our steam navy, by reducing much of the dead weight of machinery, and render war-steamers much more efficient for the service, occupying considerably less than the usual space, and placing the machinery entirely out of the range of shot. Its advantages as an auxiliary power to propel merchant vessels may also prove important.—*Herapath.*

Manufacture of Alkali and Chlorine.

Mr. C. T. Dunlop, of Glasgow, has recently obtained a patent for some "improvements in the manufacture of alkali and chlorine, and in the application of the product resulting therefrom;" the first part of which consists in an improved method of producing chlorine, fit for manufacturing purposes, by the mutual decomposition of the following substances:—

Muriate of soda, or any other muriate—nitrate of soda, or any other nitrate—muriatic acid—nitric acid. In some instances it is also requisite to use sulphuric acid; and the patentee generally prefers to employ it, in order to obtain, as a residual product, sulphate of soda, suitable for the manufacture of soda, etc.

All the above materials may be employed together, or only two of them; as, for instance, a nitrate with a muriate (in which case sulphuric acid must also be used), or a muriate with nitric acid, or a nitrate with muriatic acid, or muriatic acid with nitric acid; in the latter cases, sulphuric acid is employed, according to the results desired to be obtained. The patentee says—he does not confine himself to any proportions, but the process he usually adopts is, to bring together common salt, nitrate of soda or nitric acid, and sulphuric acid, in suitable proportions; heat being then applied, chlorine, or oxide of azote, and muriatic acid, are evolved; these gases are caused to pass through a condenser, charged with sulphuric acid, of sufficient strength to absorb the oxide of azote; and then the chlorine and muriatic acid are separated by means of water.

The second part of the invention relates to the application of the product resulting from the above process, and consists in the production of nitric acid from the sulphuric acid, charged with oxide of azote, which is true nitrous sulphuric acid. This is effected by the aid of atmospheric air, steam, and water; and the process adopted by the patentee is, to introduce the nitrous sulphuric acid into a suitable vessel, and, by the addition of water and heat, to effect the disengagement of the oxide of azote, which, being caused to traverse a condenser, together with a sufficient quantity of air and steam, or water, is by this means transformed into nitric acid; this acid may be again used in the manufacture of chlorine, and again recovered, and so on. Sometimes, in place of treating the nitrous sulphuric acid, as just described, the patentee causes the oxide of azote to be evolved, and to pass into a chamber, into which a current of sulphuretted hydrogen is streaming; by which means sulphate of ammonia is obtained and sulphur deposited. The patentee claims the manufacture of chlorine from the materials above mentioned, in the manner described; the process employed for separating the gaseous products, so as to obtain the chlorine in a sufficiently pure state for manufacturing purposes; and the two processes described for utilizing the products resulting from the manufacture of chlorine.—*Lond. Min: Jour.*

Suspension Bridge.—New Plan for Railways

The Railway Record, for 6th November, gives the following description of Mr. Cowper's plan for building suspension railway bridges. The editor says: "At the last meeting of the Institution of Mechanical Engineers, held at Birmingham, the following paper, by Mr. A. E. Cowper, of the London Works, was read, and deemed highly important and deserving of further consideration."

"*Description of an Improved Suspension Bridge for carrying a Railway and for other purposes.*—In bringing before the Institution of Mechanical Engineers a paper on a peculiar form of bridge, I ought perhaps to apologise for introducing matter which may by some of our friends be thought to belong more strictly to our civil brethren: but possibly before the conclusion of the paper, I shall have anticipated any objection which might have been made on that score by showing, in point of fact, that I have only been explaning a piece of boiler maker's work, and which may certainly be considered to be far enough removed from civil engineering. The object of the present paper is to call the attention of engineers and railway directors generally to a mode which I have invented of constructing suspension bridges in such a way that they shall not be thrown out of shape, or in any way distorted, by the weight of a passing load, whether it consists of a railway train or only of the ordinary traffic of a common road.

"It is well known that suspension bridges are decidely less costly than any stone bridges, and we may add than most iron bridges, when the span is at all above the length of an ordinary girder; and although many persons have turned their attention to them, particularly with regard to their use on railways, I am not aware that any suspension bridge has ever been made, or proposed, that was at all competent to carry the weight of a railway train in motion, or, in other words, that should be safe as a railway bridge. My attention was particularly called to suspension

bridges by the proposal of carrying a railway over the Hungerford bridge, or over a bridge placed along side of it; and it appeared to me that the weight of a passing train would so move and distort the chains as to cause the road very soon to get out of order, if not actually give way; and I then schemed the plan of making a chain of such depth as to include any alteration in the curve of the strain that might take place. The curve which the chains of an ordinary suspension bridge takes is well known to be a catenary, or rather a curve between a catenary and a parabola; it would be a true parabola if all the weight were in the platform, and a true catenary if all the weight were in the chain. As, however, the difference between the catenary and the parabola is very slight indeed in that portion which would be used for a bridge, we may assume it to be a catenary for all practical purposes.

"Now, on loading an ordinary suspension bridge with even a small weight, it at once assumes a different curve (unless the weight be equally distributed over the bridge,) and if the weight be large, it will assume a very different curve; so much, indeed, will the form be altered as to injure or strain the material of which the platform or road is composed. Now, it is evident that, if the road has to distribute the weight, it must be a very strong and stiff beam, or, in fact, a girder of the full length of the bridge; and the strength of this girder would very nearly be equal to carrying a quarter of the weight of the load in the centre; it is therefore evident that the plan of forming a stiff platform or road for a railway suspension bridge, although by no means impossible, must be at least half abandoning the suspension principle, and be the cause of greater outlay.

"The plan of keeping the road in shape, by distributing any weight that might come upon it, by means of strong diagonal ties, was the first idea that I had; but it will be found by calculation that these diagonals would have to be very strong, and of considerable height, thereby causing the total depth of the bridge to be much greater. But the plan on which I propose to construct suspension bridges capable of carrying railway trains without being in any way injured there by, is simply to construct the chain of such depth as to include the curve of strain when the weight is placed on the bridge in the most unfavorable positions. With this object I construct the chains of boiler plate of considerable depth--say three or four feet or more—and rivet the whole together without any moveable joints, or separate links, and at the top or bottom edges of the chains (I still call them chains, that I may be clearly understood) I rivet or otherwise attach bars, either flat, half round or angle iron, so as to give an accumulation of metal at those parts, and at the same time to render the edges of the chains perfectly secure against any tendency to rip or tear. In the drawing you will observe that there are two chains, each four feet deep, which support the ends of cross wrought iron girders, in the position of sleepers, each chain being composed of four boiler plates, rivetted together in pairs, each plate being three-eighths inch thick, and at the top and bottom edges there are securely riveted strong angle irons. The suspension bars hang between the two pairs of plates forming the chain, and are supported by a small saddle, which bears on the top edges of them. The ends of the cross wrought iron girders are firmly secured to a light rib of boiler plate, which runs along each side of the bridge, as shown in the cross section of the bridge; the lower ends of the suspension bars are secured to the ends of the girders, with means of adjustment, so that the road may be trimmed perfectly level when the bridge is fixed. There are also light diagonal ties introduced, for the purpose of more perfectly staying the road to the chains, particularly in case of the breaks being applied while the train is passing over the bridge.—The rails, either of the ordinary form placed in chairs, or of that form commonly called the bridge rail, are supported on balks of timber scarphed together, which run longitudinally throughout the bridge, and these are supported by short balks of timber running from girder to girder, immediately under the first. There are a series of diagonal ties placed in the platform, as shown in plan in the drawing. These act as a means of stiffening the platform, and preventing any vibration or shaking of the parts. The long red lines indicate stay rods, by which the bridge is prevented from moving or swinging sidewise. They are attached to the piers, and are very similar to some used by Mr. Brunel, senior, in a bridge at the Isle of Bourbon. The drawing before you is of a bridge 200 feet span, having the cross girders eight feet from centre, and the chains four feet deep, which depth has been arrived at by actual experiment; the weight of the road from one of the rails and the train is one ton per ft. run, and the weight of a train of locomotives I have assumed at one ton per foot run, and this is allowing some margin for the continued growth of locomotives; and I have taken as a proof load, two tons per foot run—thus the weight of the load, or disturbing cause, will be just double the weight of the bridge.

I find the greatest distortion of the curve strain takes place when the bridge is only half loaded, i.e., from one end to the centre; the curve then approaches the bottom of the chain, very nearly in the centre of the loaded half, and approaches the top of the chain in the centre of the unloaded half, while at the piers it approaches the top at the loaded end and the bottom at the unloaded end. Again, if the same load be placed in the centre of the bridge (covering one-half of the length), the curve of strain will approach the bottom of the chain in the centre, and will approach the top of the chain at very nearly one-fifth from each pier, while at the piers it will be near the centre of the chain, but rather above it. Take one more case, and we shall have disposed of all the heavy disturbing tendencies—viz: that of the ends loaded, and the centre left unloaded; the curve of strain will then approach the top of the chain in the centre, and the bottom of the chain at about one sixth from each pier, while at the piers the strain will be slightly above the centre. I may add, that, when the bridge is fully loaded throughout, the curve of strain is in the centre of the chain, throughout its length. I propose to call bridges made on this plan, 'inverted arch bridges.'"

A brief conversational discussion followed the reading of this paper, in the course of which Mr. Stevenson and others stated that if the invention could partially carry out the intentions of Mr. Cowper, it effected a most important desideratum in railway engineering.

Silver Ores.--Mode of Separating.

The following is a discription of Mr. Richard Phillips' mode of separating silver from its ore, and Mr. Widder's remarks upon it—both of which may be interesting to some of our readers.

Process for separating Silver from its Ores, without the use of Murcury. By Richard Phillips, F. R. S.

Reduce the ore to the state of fine powder, and then mix the following proportions of it and the undermentioned substances:

100 lbs. of the fine powdered ore;
10 lbs. of common salt;
10 lbs. of finely powdered sulphuret of iron, frequently called pyrites, or martial pyrites, and sometimes *persulphuret* or bisulphuret of iron; and instead of this, if more convenient,
12 lbs. of sulphate of iron, or copperas dried until it has become white—this substance is also frequently called green vitriol, or green copperas. It is to be understood that the weight mentioned is of the copperas after, not before drying.

Let this mixture be calcined in a strong heat, in a reverberatory furnace, until all vapors have nearly ceased to rise.

In this operation, the sulphur of the sulphuret of iron becomes sulphuric, and, this decomposing the common salt, its chlorine combines with the silver, and converts it into chloride of silver, frequently called muriate of silver, or horn silver; and this is the state in which it is required to be brought forth—process to be presently described. If the ore be naturally in this state—that is, horn silver—this proparatory process is needless; and the ore, reduced to fine powder, may be at once subjected to the solvent to be described. If the ore contains a considerable portion of sulphur, combined either with iron or copper, then the pyrite or sulphate of iron may be either totally omitted or their quantity reduced. If the ore contains *native* or metallic silver, then five lbs. of nitre or saltpetre should be added to the above ingredients.

Observations on Mr. Phillips' Process of separating Silver from Ores. By Mr. Widder.

By roasting the ore with common salt and pyrites, or sulphate of iron, the muriatic acid of the common salt combines with the silver, and the soda with the sulphuric acid produced by the pyrites of sulphate of iron.

In many mining districts the process of roasting is objectionable, or even impractica-

ble, owing to the scarcity of fuel. This is one of the reasons for which the German method of amalgamation has been found so little applicable in Mexico. It is, however, well observed, by Mr. Phillips, that in the common process of amalgamation practised in Mexico, the silver contained in the ore is converted into chloride of silver, by the chemical action of common salt and of magistral —an impure sulphate of copper and iron— of the sun's heat and light, of water, and repeated stirrings, before any mercury is added. It therefore may be proper to *convert* the ore according to the usual mode of proceeding in Mexican amalgamation, until arriving at the point when the mercury would be added.

Instead of this, Mr. Phillips' process would begin by washing the lama or schlick; the lime added to the solution of muriate or sulphate of ammonia, combining with the muriatic or sulphuric acid, and sets the ammonia free.

Quere—may not the lime, if used in excess, and remaining uncombined in the solution decompose the chloride of silver?

The ammonia is seized by the sulphuric acid of the sulphate of iron, and the reduced silver, together with the oxide of iron, falls down.

Here a greater quantity of lime is added, to combine with the acid contained not only in the one pound of muriate or sulphate of ammonia now added, but also with that contained in the sulphate of ammonia produced in the first part of the process by precipitating the silver from its solution in ammonia by means of the sulphate of iron.

N. B. The solution, whenever it has received an addition of lime, and consequently disengages ammoniacal gas, ought to be exposed to the atmosphere as little as possible, so as to prevent loss by the escape of the gas.

On a New Mode of Engraving, called Stylography.

A new method of engraving has been invented by M. Schœler, a native of Demark. In 1842, M. Schœler had so far perfected his invention as to produce satisfactory results, which was submitted to the King of Denmark, who rewarded the invention on the condition of his publishing a complete description of his method. In conformity with this agreement, he has just published the particulars of the process at Copenhagen, and has also made it known at Bruxelles. The Academy of Sciences of this latter city approved of it in its sitting of the 4th of December, 1846. Mr. Buschman D'Aurey subsequently made use of it at Antwerp. and on the 18th of last May, his experiments were submitted to the Academy at Bruxelles.

One part of copal, three of stearine, and three of lac are melted together, and a sufficient quantity of Frankfort black is added to render the composition black. The whole is melted in a mould about six lines (or half an inch) in depth, formed of two sheets of copper, which are first rubbed over with an amalgam of tin, and whiting and Tripoli, blackened over the flame of a lamp. The sheet of composition is then to be taken from the mould; it will come out easily, and will harden on contact with the air. It is afterwards to be rubbed with a solution of rosin in spirits of wine, and polished; and before it is quite dry it is to be covered with silver powder, until it is like a sheet of white paper. The design is then to be counter drawn on it in red, and the whole is to be gone over with a dry point or graver, the different shades being regulated by cutting to greater or less depths, and varying the width of the lines as well as the distances between them.

The design being engraved, it is to be cleansed with water, and covered with a solution of sugar mixed with a small quantity of nitrate of silver, and bronze powder laid on with a brush.

It then only remains to apply the known processes of galvanoplastics: first, a plate is formed in relief, and from that the plate is produced which is to be printed from, in the same manner as etched or engraved plates. The principal advantage of M. Schœler's process is a saving of labor to the engraver, as he draws in black on a white ground, in the same manner as with pencil and paper.

The results hitherto obtained, although satisfactory, must be merely regarded as slight indications of what may be done by this process in the hands of skilful artists, when some apparent difficulties incident to all new industrial processes (such as lithography, for instance) shall have been made to disappear by practical experience.

If, however, M. Schœler's process does away with some disadvantages which are frequently encountered in the ordinary process of etching, and which are unfavorable to the production of good engravings, it necessitates an extra operation (that of electrotyping) which occasions a certain expenditure of time and money; but it is not unreasonable to suppose that by experience some improvement will be effected in this part of the process. It is not likely that *Stylography* will ever rival line-engraving in beauty; but it possesses over it the advantage of not requiring for its execution one-tenth part of the time: and, moreover, by this means the artist may himself engrave his design with even greater facility than it could be lithographed; which is a great advantage, when he wishes to produce a great number of copies of his work.

M. Schœler has sent thirteen specimens of his works to the Royal Academy at Bruxelles, consisting of two landscapes, three studies of heads, portraits of Frederick VI. and Beethoven, portraits of Lord Byron at several periods of his life, and five finished studies of heads, amongst which, an oriental study, about four inches high, is a very excellent specimen, as the finest and most delicate lines, produced by the point, are well brought out. Several of these specimens have the fault of too much vigor, or rather perhaps too much hardness and dryness; a very skilful hand being required to handle the point lightly, and to produce effective shadowing; but this is easily acquired by artists, as will be seen from the perfection which has been arrived at in lithography.—*Bulletin de la Societe d'Encouragement.*

CONNECTION BETWEEN THE BOSTON and Lowell and the Boston and Maine Railroads. On and after April 1st, 1847, passenger trains between these two roads, will run as follows, viz:

Leaving Lowell at 7, 11 1-4 a.m., and 2 1-2, 4 1-2, and 6 1-2 p.m., to connect at the junction in Wilmington with the eastward trains—at 7 a.m. and 2 1-2 p.m. with those to Portland; at 4 1-2 p.m. to Great Falls only, with a detention of 45 minutes at the junction, and at 11 1-4 a.m. and 6 1-2 p.m. to Haverhill only. Leaving the junction in Wilmington, for Lowell, at about 7 1-4 a.m. on arrival of the morning train from Haverhill; at about 9 a.m., on arrival of the morning trains from Great Falls. At about 11 3-4 a.m., on arrival of the morning train from Portland. At about 5 p.m. on arrival of the afternoon trains from Haverhill. At about 7 1-4 p. m. on arrival of the afternoon train from Portland.

WALDO HIGGINSON, Agent

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
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13 ORCHARD PLACE, SOUTHAMPTON.
SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

July 31—3m ROBERT GRACIE.
New York.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, *Civil Engineer*,
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



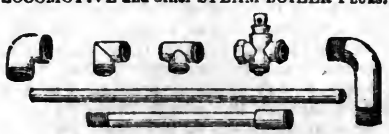
No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

TO LOCOMOTIVE AND MARINE ENGine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

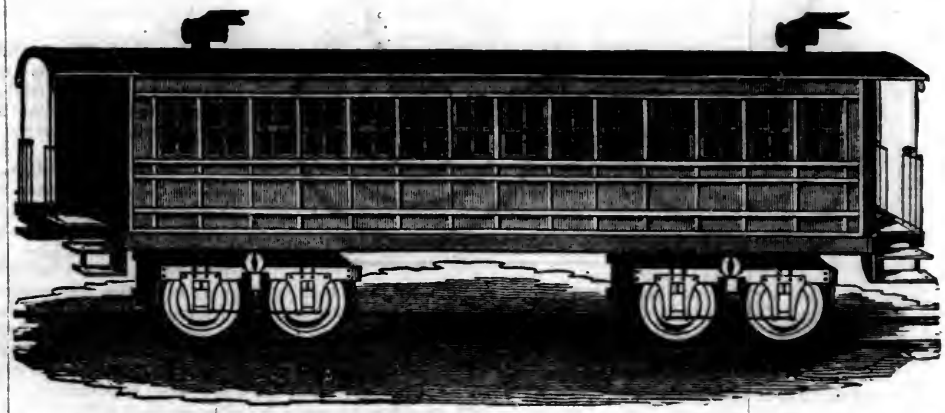
LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 321

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED I Railroads, Railroad Directo and Managers are respectfully inv ted to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arreste have been extensively used during th last year on both passenger & freigh engines, and have been brought t such a state of perfection that no an noyance from sparks or dust from th chimney of engines on which they are used is experienced.

These Arresters are constructed o an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power o the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

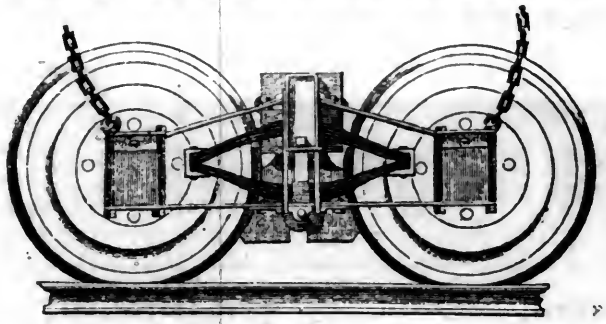
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
4tf Philadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
1y48 77 Pine St., New York.

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, [Signed,] JOHN LEACH,
Jamaica November 12, 1845. 1y19 Sup't Motive Power

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	21	–	50	15-16	20
13	3¼	8	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2¾	5	2	6½	9	4	13½	1-2	7½
16	2¾	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

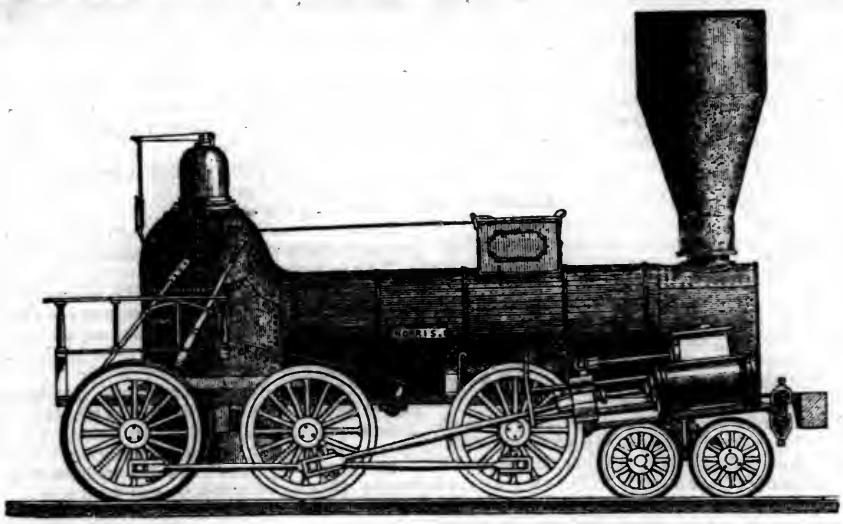
PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





MANUFACTURE to order Locomotive Steam Engines of every plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS & BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

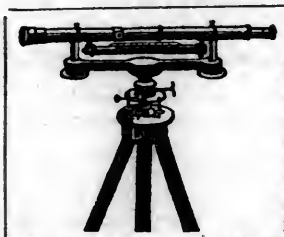
Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a15 Paterson, N. J., or 60 Wall street, N. York.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a15 President of the Newcastle Manuf. Co.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.


WINTER ARRANGEMENT,
Commencing October 4, 1847.


PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

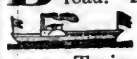
MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.

1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:




Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—




Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will precede each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows, viz:




Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.




Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

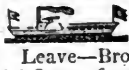
Leave Worcester for New York, upon the arrival of the train from Boston, at abont 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:




Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

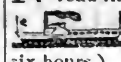
Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

5tf DAVID S. IVES, Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.




Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

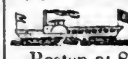
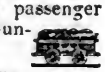
Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information; apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to

1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1 25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35ly

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CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12 Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,

y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

t25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 *P. M. Lines run.*

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12½ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p.m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

Between Macon	and Decatur and immediate points.	0 22½	1 54	1 05	0 81	0 86
	and Knoxville & intermediate points	0 22½	1 54	1 10	0 76	0 81
	and Chattanooga.				0 61	0 65
Between Augusta	and Decatur and intermediate points.	$0 24	1 70	1 15	0 85	0 90
	and Knoxville & intermediate points.	$0 24	1 70	1 20	0 80	0 85
	and Chattanooga.				0 65	0 70
Between Charleston or Savannah	and Decatur and intermediate points.	$0 32	2 20	1 35	1 05	1 10
	and Knoxville & intermediate points.	$0 32	2 20	1 40	1 00	1 05
	and Chattanooga.				$0 85	$0 90

1st class.—Boxes of Hats, Bonnets and Furniture per foot.....
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Scythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs...
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks, or Crates of Crockery, Hardware, and other heavy articles not enumerated below.
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.....
Per 100 lbs.....
Cotton.

Merchandize shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.
Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot.....	$0 20
Second class, per 100 lbs.....	1 20
Cotton, per 100 lbs.....	0 55
Third class, per 100 lbs.....	0 60
Fourth class, per 100 lbs.....	0 50

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS, } 1y48

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 4.] SATURDAY, JANUARY 22, 1848. [WHOLE No. 605, VOL. XXI

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, January 22, 1848.

Southwestern, Ga., Railroad.

We commence, in this number, Mr. Holcomb's report of his recent survey of this railroad. We deviate in this instance somewhat from our usual course, in publishing the reports of preliminary surveys—which are not always as useful to others as to those immediately interested in the work—because we can give a map with it showing its connections, and contemplated extensions and branches. It will be seen, by referring to the map, that it is contemplated, by this road, and the Central road, to open an easy and cheap communication between Savannah, Southwestern Georgia, Southeastern Alabama and Florida — probably the best cotton growing region of those three States. It will not only enable the planters of that region easily to reach a shipping port, but will also enable them, when the road shall be opened from Chattanooga, on the Tennessee river, to Nashville, and the Ohio, to get their supplies from that region at a much cheaper rate than they now get them—and thus enhance the value of their crops and lands to much greater amount than the cost of all these works.

The distance from Macon to Fort Gaines is found to be 140 miles, and the estimated cost of the work complete, ready for the machinery, with a rail of 60 tons to the mile, is $1,548,964 23, or $11,061 03 per mile—and with the outfit of 15 locomotives, cars, tools and machinery for shops, the cost is estimated at $1,773,264 23, or $12,666 17 per mile.

It appears that the bluff at Fort Gaines is about 160 feet above the river, which gives a fine opportunity for the construction of a *suspension* bridge, by which the navigation of the river will be wholly unobstructed.

In speaking of river navigation, Mr. Holcomb ventures a prediction which may, by some, be deemed as extravagant as was the remark of the celebrated engineer, *Brinley*, who said that "rivers were made to *feed* canals." He says—in speaking of the navigation of the Chattahoochee—"it is, however, like most other of the rivers of the country, ultimately destined to yield the palm to the superior speed, certainty and safety of that great revolutionist, the railroad. If I might be permitted for a moment to wander so far from the subject, I should run but little risk of not being borne out by the fact, were I to predict, (and the prediction is therefore hazarded) that the mighty Mississippi itself, at least for all purposes of travel, will be deserted. We have but to compare the distance by land and water, from New Orleans to Louisville, for instance, to show the probability of this event. From New Orleans to Louisville by water, is fourteen hundred miles, and by land, six hundred." Yet, bold as the prediction may be deemed, it will be *literally* verified, and that, too, at no very distant day.

We shall give the remainder of the report in the next number of the Journal.

The Iron Trade.

We find in the Railway Chronicle of 18th December the following in relation to the iron trade.

"*Birmingham, Dec.* 10.—From the prevailing depression, the iron men of South Staffordshire, as well as the furnace men engaged in the several large firms around Dudley, have received notice of a reduction of 20 per cent. on their wages, and the wages of the colliers will fall to 4*s.*, and in some cases to 2*s.* 9*d.* per day. Short time is generally being adopted throughout South Staffordshire, and many iron masters have determined to suspend operations altogether for the present. At a meeting of iron masters held at Wolverhampton on the 8th inst., a resolution to the above effect was unanimously agreed to, so that the reduction of wages will become general throughout South Staffordshire.—*The Oak Farm.*—The total liabilities are upwards of £260,000, the whole of which is guaranteed by the old firm, except £36,000, the old firm holding as security the works. The assets, including machinery, stock, and book debts, are over £100,000. The liabilities of the new firm are less by £100,000 than when the dissolution of partnership took place in 1845.—*Glasgow, Dec.* 10.—The market for pig iron is still inactive, and until we get the present season over, we cannot look for any improvement. Our quotations are dull at 48*s.* 6*d.* for No. 1, 47*s.* 6*d.* for mixed Nos., and 46*s.* 6*d.* for No. 3. cash. The *North British Railway Gazette* gives the following shipments of pig iron in November last:—From Port Dundas and Kirkintilloch, 16,111 tons; from Broomielaw, 16,780 tons; in all 32,841 tons.

"The vessel *New World*, from New York, has brought, in addition to other cargo, 149 tons weight of railway iron, whether an original importation, being consigned to order, or returned British iron, not being specifically mentioned. The vessel *J. R. Skiddy* also arrived from New York, has brought in addition to a large cargo, comprising every variety of American provisions—822 bars of railway iron, under similar circumstances and consigned to order. Other arrivals have also taken place by the vessels just arrived from the United States, and are of interest, in so far that they did not previously form a portion of the cargoes of vessels arriving from that quarter of the globe."

We do not quite understand this returning of railroad iron—was it sent out here in search of a market, or what does it mean?

In the same Journal of 25th December, we find the following, viz:

"*Glasgow, Dec.* 27.—There are no transactions of importance, so as to make a quotation; it is merely nominal, at 47*s* for mixed Nos.

"Two important meetings have been held during the week, in furtherance of the movement towards a general reduction of wages. At the one in Birmingham, says the Birmingham Gazette, on the 15th, attended by nearly all the manufacturers of iron round Wolverhampton, Dudley, Stourbridge and Birmingham, it was decided that to puddlers notice should be given for a reduction of 1*s.* 6*d.* per ton, and to all other men employed in mills and forges, 20 per cent. from their present wages—being a similar step to that already taken with those employed at the blast furnaces, who are in many instances working at the reduced rates. The other meeting was held at Stourbridge on the 17th, and composed a very large majority of the coalmasters in the district. A resolution was passed that notice should be given on the 18th to thick-coal colliers for a reduction of 1*s* per day, and, where it had not been previously given to the men engaged in getting thin mines and ironstone, 9*d.* per day."

We regret to see this state of the trade, as it will be likely to affect, unfavorably the manufacture of American iron.

English Poor Rates.

The Railway Record says that "the average contribution by the English railways to the local and parish rates every year amounts to five per cent. of their earnings, estimated at nearly £8,000,000 a year—in round numbers. £400,000 towards the £5,000,000 annually raised for the poor—that is, 1-15th of the total rates, and fifty times what the same quantity of land contributed before its conversion to railways."

At a court of inquiry, held at Driffield last week, to assess the amount of compensation to be paid for land at Driffield, required for the Malton and Driffield Junction railway, it was stated by Mr. Atherton, Q.C., that the whole of the traffic between Malton and Driffield had been conveyed on the back of a donkey.

Atmospheric Railway--South Devon.

The Plymouth, England, Herald of November 15th, says, "we have great pleasure in stating that, on Tuesday last, the first experimental train was run to Newton; and though it was but fair to anticipate that some difficulties might arise in the trial, from water which must have accumulated in the pipes, and from other causes incidental to a first attempt, yet the distance was accomplished in grand style, without the least difficulty or delay.

"The carriage was started from Teignmouth at five minutes before 10 a.m., and at eight minutes after 10 it arrived at Newton, having stopped at Wear engine house four minutes. The train came back in twelve minutes, having stopped four minutes at Wear on returning. The distance is five miles.

"Our readers who take an interest in the progress of practical science, will also be glad to hear that the trains from Teinmouth to Exeter—four each way—propelled by atmospheric power, ran most admirably, keeping their time far more regularly than those driven by locomotives; and the most perfect confidence is felt as to the system finally superseding the now common mode of traction.

"The power is exceeding great, and it is said that light trains could be propelled without difficulty at 60 miles an hour. The engineer, who ran for the first time to Newton, had the breaks on down and up. We trust to be enabled to announce in a short time that the locomotive engines are to be dispensed with on the South Devon line as far as Newton.

"The engine houses on the line towards Totnes, and at the stations, will soon be finished, and, as we stated a few weeks since, the tubing, of a large calibre, is being laid, and not the least doubt is entertained that the steep gradients on that part of the line will be run over at a swift pace, with much ease. If these expectations be realized, of which we see no doubt, the triumph of Mr. Brunel and Mr. Samuda will be complete, and another 'great fact' will be established in the scientific world—the triumph of air over steam."

Tunnel Under Liverpool.

The Liverpool Mercury says that "this gigantic effort of skill and labor, which is to run from Edge hill to the New North Docks, is likely to prove more expensive than was at first contemplated, and, at the same time, to be a great promoter of the sanitary condition of the town. From Byrom st. to Crompton st., a distance of about a mile, the cuttings have been difficult and dangerous, the workmen having to cut through the clay the whole distance they have yet proceeded, and to support the sides with the utmost care and skill, as required by the treacherous state of the earth. In some portions of this distance it has been found necessary to raise buildings, and open the earth to the level of the intended tramroad. This has been done from Byrom street, once the head of the pool from the Mersey to Fontenoy st. The remaining portion of the tunnel to Great Howard st. has been attempted to be cut underground; but such has been the ill success so far, that some of the houses, not only immediately over the cuttings, but at some distance from them, have given way, and have been rendered so dangerous that the inmates have been compelled to quit with short notice. Some of the dwellings have been so rent, that to live in them as they now are, would be extremely dangerous. It is therefore believed that the houses in the whole distance from Fontenoy street to Crompton st., comprising Banastre st., Henry Edward st., Marybone, Midghall st., Bispham st., Freemason's row, Vauxhall road, Gascoyne st., and Eaton st, will have to be pulled down."

Railway Expedition.

The Railway Chronicle, of November 27th, says, "as a feat of newspaper expedition, by the help of railways, we may notice that copies of the 'Daily News' of the 24th, arrived at Manchester, and were on sale by 10 t5 A.M. The express which brought the papers left London at 6 A.M., so that the distance over the Trent Valley line was traversed in 4h. 15m., and the last 31 miles, (from Crewe to Manchester,) in 35m., including three stoppages. The 'Daily News' of the previous day laid upon the tables of the Exchange, at 3 P.M., a full report of a meeting held at Manchester the day before, (Mr. Villier's resignation), and which had not terminated till 5 P. M.; so that the short hand writer's notes had been transcribed, the copy had been 'composed,' the papers had been received from the printing machines, and a distance of more than 400 miles had been passed over besides, and all in 22 hours."

Locomotive Distance and Timekeeper.

A Mr. Fletcher has made an instrument for registering the distance travelled by the locomotive. The following description of it is from the Railway Chronicle.

"This instrument is constructed for ascertaining the distance, and time any part of the distance travelled over by the locomotive engine; it is placed in a situation where the engineer can readily have his eye upon it, or on a carriage for the guidance of the guard. The driver can thus at all times ascertain the speed of his engine, his distance to the next station, and his exact position on the line. A chronometer is also attached, showing railway time. It also registers on paper a description of the journey, the time occupied at each station, and the exact speed travelled during every mile. This paper may be taken off at the end of each journey, marked with the number of engine and date of year, and filed. It has a dial, the circumference of which is divided into the number of miles on the railway, and all the stations are correctly marked down at the proper distances from each terminus; while a finger, or indicator, points to the spot occupied by the engineer on the line. A smaller finger revolves once in two miles, by which the engineer can ascertain his speed. Another small finger revolves once in sixty journeys, of 10,000 miles, if necessary, to show the distance travelled by the engine during several weeks. Within the apparatus the speed and distance are registered, and this is effected by a separate wheel running on the rail, and not put out of working by breaks, or slipping, etc. The machinery is so arranged for any line, that the hand on the dial makes one revolution during a journey to the terminus and back."

Mails Between London and Paris.

We find the following, in reference to the mails between London and Paris, in the Railway Chronicle. It appears that the Londoners are not quite satisfied with their mail arrangements. They complain of a detention of *two hours* in the arrival of one of the daily mails. What would they say at a detention of *two or three* DAYS?

"Mr. Macgregor has been to Paris to accelerate the *postal arrangements*, but has returned, it is said, with only a partial success. The Morning Herald reports the following as the new arrangements.—Calais and Boulogne are to divide the honors of the mails—one mail a day each way is to be conveyed through Calais, the other through Boulogne. A morning mail will be despatched from London, via Dover and Calais, every day at 11 30 a.m., to reach Paris the following morning 4 30 a.m. The night mail from London is to start from London bridge at 8 30 p.m., and is to arrive in Paris at 10 30 a.m. next day. This mail is to go by way of Boulogne. There are to be two mails each day from Paris to London, the first of which is arranged to start from Paris at noon, and arrive in London the following day at 4 30 a.m., with the regular Dover mail train. This is to come via Calias and Dover. It is intended that the other mail shall leave Paris at 7 p.m., and arrive at London bridge by the express train at 10 30 a.m. next day. This latter mail is to be conveyed via Boulogne and Dover. Our contemporary observes, here is the mail leaving Paris at 7 p.m. made to arrive at London within about five hours of that which starts seven hours in advance of it, and it is to be thus delayed just because it suits the convenient arrangement of somebody that the mails should be driven about in the way proposed. The arrangement is an absurd one and will not long be tolerated. The Boulogne and Amiens is now open to within six miles of Boulogne, and on the principle that English indomitable perseverance would not allow further detention in the opening, so will the mails be accelerated to the full capabilities afforded by locomotives and marine steaming. Paris and London now extend their hands to each other—the full and cordial embrace cannot and must not be stifled. As a proof of what can be done, a party of gentlemen, among whom was Mr. Macgregor, started from Paris on Saturday, and reached London in 12h. 50m. The journey from Paris to Boulogne occupied 8h. 50m.; from Boulogne to Folkstone, 1h. 55m.; and from Folkstone to London, 2h. 5m.—There was no effort in accomplishing this—the train from Paris to Amiens was a slow one, and stopped at every station."

Upper Canada Mining Company.

We have heard much of this company, and its valuable locations, but have not before met with any thing definite. The following report of *T. W. Bristol*, superintendent of the company, will give a better idea of the extent and value of their locations than anything yet published. We find it in the American Mining Journal of 5th inst., together with the report of Carlos Cobb, principal officer, and P. Von Schneidau second officer of the company—but this will give a good idea of the region.

To Col. O. P. Dibble, Superintendent Upper Canada Mining Company:

SIR—Having completed my explorations for the season, I beg leave in accordance with your instructions, to submit to you the following report, as a summary account of my researches during the past season upon Lake Huron.

My examinations have resulted in the selection of three locations for the Upper Canada mining company, of 10 square miles each.

Spanish River Location is situated about ten miles west of the mouth of the river of the same name, and in the neighborhood of 120 miles east of Saulte St. Marie.

The rock formation is mainly composed of trap, greenstone, and altered slate; the former predominating on the islands bordering the coast, and the point of main land, known as the Little Detroit, which constitutes the eastern portion of the south boundary of this location. The greenstone and slate occur on the main land, the latter in the high mural cliffs which skirt the coast, flanked upon the north with greenstone, which continues with slight interruptions, to the north boundary of the tract.

Of the number of islands embraced within this location, three only are regarded of sufficient size to call forth a description of their mineral veins. The two greater have an east and west direction, extending nearly across the location with average widths of about three-quarters of a mile, and are elevated from 100 to 150 feet above the lake.—The remaining one will be found near the west boundary, running parallel with it, or nearly at right angles to the two former, with about the same elevation.

This island near the south end, is traversed with five well defined quartz veins, varying in extent from one to two and a half feet. In four of this number, the grey sulphuret and carbonate of copper alone prevail—the sulphuret occurring in small strings and minute particles disseminated through portions of the veins, while the green copper tinge, communicated by the carbonate of copper, appears throughout the entire width between the walls. The remaining vein referred to, is immediately upon the surface, producing yellow sulphuret and purple copper; the same specimens exhibiting both characters of ore, nearly and proportionately mixed.

The veins all occur in trap, and were found to preserve their uniform width when traced down the slope upon the west side of the islands, until disappearing in the deep waters of the lake. Two of these veins are connected nearly at right angles, by a feeder of one foot in thickness. Entirely traversing an intermediate vein at the junction, the matrix is changed from a white to a brown quartz, without any observable alterations in the mineral productions, both sides alike producing valuable specimens of purple copper.

The general course of these veins may be said to be east and west; although in tracing them easterly across the island, they were found to diverge towards each other at small acute angles, which if continuous would result in their intersection upon the larger of the two islands first mentioned, which is here separated only by a distance of 200 yards.

Their general course was continued across the island, where a handsome vein of quarts, four feet wide, was discovered, boldly cutting the cliff with an east and west direction.—This vein, I think, may be safely inferred as made up of all those above described falling into each other; and accordingly presents a favorable point for permanent operations.

About one mile easterly, following the south shore of the island, a vein of copper pyrites makes its appearance in a perpendicular cliff of trap, 40 feet high, exhibiting a well defined width of two and a half feet.

The matrix of the vein is made up of quartz and copper pyrites in nearly equal proportions; and the green copper tinge was observed to mark the rock in broad vertical bands, existing in proportions to that extent so as to furnish the prevailing color to the rock in the vicinity of the veins.

Owing to the peculiar position of this vein in the cliff, it was not deemed practicable to commence removing the ore with but two men, as a very considerable amount of labor must necessarily be expended before mining advantageously can be commenced.

This vein was traced easterly but a short distance, owing to the inequalities in the ground, and the surface being concealed by large masses of detached rock and vegetation. Westerly, it preserves its course along the margin of the lake, parallel with the course of the islands, entering the cliff a few rods north of the house which has been erected, and was traced nearly one quarter of a mile pursuing its uniform width and bearing.

The debris at the foot of the cliff is strewed with masses of detached veins and stones carrying the ores of copper; and the wall rock from whence the vein has been dislodged, is marked with wide belts of the copper tinge as above described.

Aside from those referred to, veins exhibiting about the same average width were discovered, producing the different ores of copper. The very marked relation these veins bear to one another, supercedes the necessity of a minute description of each; for a description of one may be said to be essentially a description of the whole.

A very striking similarity exists in their bearings; for in no instance of those regarded as true veins, was any material deviation from an eastdirection observed. This circumstance it is believed, taken in connection with their contiguity to each other, will be found to produce a great influence over their products.

In other mining districts, where veins occur isolated, or separated by great distances, without any connecting strings or feeders, they have in general failed to produce satisfactory results from mining. Upon the other hand, when a number of somewhat parallel contiguous veins appear, as in this instance, some of them very rarely fail to be productive.

No objection can be raised from the fact of their being upon islands; for they are of sufficient magnitude and elevation to possess all the advantages that could possibly be realized were they situated upon the main shore.

Upon the main land, five large quartz veins have been discovered, conforming in direction with those previously described, with thickness varying from four to eight feet. In three of these veins, the yellow sulphuret of copper was found, and in one, which was traced over a quarter of a mile, this ore was taken from portions of the vein elevated 100 feet above the level of the lake.

In their external characters, these veins may be said to bear a striking analogy to one which has been opened upon a location six miles east Where no mineral whatever was apparent upon the surface, a shaft was commenced, and at a depth of 12 feet a lode of copper, two feet wide was developed. These veins occur under the same geological relations; and so great is the identity existing between those of Spanish river and the one in question, that an experienced eye, familiar alike with each location, would fail to identify specimens from each point promiscuously arranged.

Experience in other mining districts have firmly established certain facts which lead to a direct understanding with reference to many of the contingencies in connection with copper lodes, and veins; and analogies for the solution of neighboring cases have been drawn with a degree of certainty seldom leading to unexpected results.

Shining argillite is found massive in this location. This formation is peculiar to some of the richest tin and copper mines of Cornwall. Small quartz veins were observed to traverse this rock, presenting external appearances worthy of further investigation.

The timber upon the Spanish river location is mostly of an inferior growth and quality—principally stunted spruce, pine, aspen and birch; the latter occupying the narrow belts of interval land occuring between the hills. Upon the west half of the location, a wide strip of wet, swampy land skirts the coast, clothed with cedar, spruce and tamarac; immediately in the rear of which, the hills slope away at a moderate angle, attaining an altitude, in four miles, of from three to four hundred feet.

Serpent river, which falls into the Lake about fifteen miles west, crosses near the northern boundary of this location, and will, it is believed, furnish all the water required.

But little arable land will be found upon this location; the islands for the most part support only a thin mossy soil, barely sufficient to conceal underlying rock. Upon the south side of Spanish river, three miles east, a wide belt of level land, a portion of which is now occupied by the Indians as their planting grounds, occurs, abundantly sufficient to produce all vegetables which may be required for the support of any mining force necessary to work the different veins.

La Cloch Locations. The two remaining locations will be found about thirty-five miles east of Spanish river, situated equally distant upon either side of the mouth of White Fish river, and embracing four miles in extent of coast.

The lateral lines take their course due north five miles, and from thence easterly, parallel with the general direction of the coast four miles, embracing a mineral tract of twenty square miles.

The "Wallace Mine" appears upon the coast about one mile west of the mouth of the White Fish river, near the centre of the west location, exhibiting one of the most favorable developments of copper ore yet discovered upon Lake Huron. The vein was first discovered by a peculiar depression which marks the surface, and the green carbonate of copper which characterizes the face of the rock throughout a width of eighteen feet.

It was subsequently continued west, across a small bay, entering a cliff of porphyritic tray, through which it was traced nearly half a mile—the yellow sulphuret of copper being taken at an elevation of one hundred feet above the water, as well as at every intermediate space where the surface was sufficiently exposed to indentify its existence. The width varies from nine to sixteen feet, the south wall being well defined and uniform, the north more irregular and sinuous in its course, giving rise to the changeable width before mentioned.

From the point where the shaft was sunk, westward, the matrix of the veins is composed of chloritic slate, which readily yields to the knife. The Indians use it as pipe stone, and the marks of their hatchets are seen upon the vein wherever it is exposed. Portions of the vein are divided transversely, with parallel lines of quartz, steatite and calcareous spar; these, again, in one or two instances, are intersected at right angles, with small veins of equal size, pursuing directions corresponding with the main vein; all alike carrying valuable quantities of yellow ore.

A shaft was sunk to the depth of six feet, which produced the ore sent you. At this short distance beneath the surface, an exceedingly favorable change was remarked in the mineral production of the vein. The ore was more thoroughly disseminated through the veinstone, and the nodules of copper were increased in size, frequently exposing several cubic inches of pure sulphuret. Should the same relative change characterize the lode in its descent, which, by the way, is highly probable, a depth of twenty feet will furnish ore in quantity and quality unequalled upon Lake Huron.

A short distance eastward of the shaft, a distinct change takes place—the veinstone is either entirely lost or overlaid by quartz.

The junction is plainly marked by a low cliff of quartz diagonally crossing the vein, in which both *cobalt* and *nicked* are found intermixed with yellow sulphuret of copper. These two minerals occur in small ramified veins adjacent to the southern wall rock, and present the first discovery of the kind of any practical importance made in this mineral district.

Aside from the occurrences of nickel and cobalt in the silicious vein-stone, the only marked alteration seems to exist in veins of pure sulphuret, instead of being distributed in prills or nodules as was observed in the vein where chlorine predominated.

The specific gravity of the ore of the "Wallace Mine" is very considerably beyond that of the ordinary sulphurets of Lake Huron; and by reference being had to the analysis of Professor Hadley, it will be found more productive than any of the ores upon the lake.

One great advantage this mine possesses over others is, the ease with which it can be worked. As an illustration of this, one drill, without sharpening, bored four feet of hole. Now, in veins where the matrix is composed of silex, two dozen are not unfrequently required, with four times the amount of labor expended to accomplish the same result. This is regarded as too important an item to be overlooked; as profitable mining to a certain extent, depends as much upon the ease and facilities afforded for working the veins, as in abundance of the ore.

In receeding from the coast, the country slopes irregularly away, presenting frequent bare knobs of granitic trappose rocks, both of which are traversed in an east and westerly direction, by veins of quartz, affording superficial appearances worthy of further investigation.

This formation continues uninterrupted one and a half miles interior, gaining an elevation of some three hundred feet, when, falling to the north at a high angle a deep valley is formed, through which a small stream, one of the tributaries of White Fish river flows, washing the southern base of the La Cloch mountains.

Immediately to the northward the mountains rise in abrupt, and precipitous ledges attaining an altitude of eight to nine hundred feet above the lake and presenting an exceedingly bold and rugged outline.

The base is clothed with a considerable growth of spruce, birch, and aspen, but from a point about mid-way up their sides to the summit, with the exception of whortle-berry bushes, which furnish abundance of fruit in their season, and here and their a stunted pine clinging to the crevices in the rocks, not a green thing appears upon their surface, the heights presenting as barren and desolate an appearance as may well be conceived.

At a point in the neighborhood of 300 feet above the stream, upon the south side of the mountain, and situated about two miles in a northerly direction from the "Wallace Mine," a bed of red hæmatite was discovered. This is said to yield the best quality of iron, and is not unfrequently used for polishing, under the name of blood stone, and at times has brought very high prices. It occurs upon a table or stair, and can be worked with great ease.

In following eastward near the base of the mountain, in a distance of one and a half miles, two veins were discovered—one of 10 and one of 16 feet. They both externally bear a striking resemblance to that of the "Wallace Mine," having parallel courses and veinstones of chlorine. Iron pyrites, which by the miners is called mundic, was found very abundant upon the surface, and in one instance particles of yellow copper were discovered, at elevations of 500 feet above the lake.

The La Cloch mountains are flanked on the north by a trap formation, as seen upon White Fish river, about two miles from the falls, and continues without interruption, as far interior as my examinations were extended.

The remaining location belonging to the company, lies immediately to the east, and adjoining the one above described. But a very short period was allotted for the examination of this tract; sufficient, however, was expended to determine the existence of three veins of yellow sulphuret of copper. They are found under the same geological relations that constitutes the prevailing rock upon the west location.

In addition to its mineral deposits, the company, in securing this tract, have the entire control of White Fish river, the mouth of which, it is said, furnishes one of the best fisheries on lake Huron—three feet of water it is said can be carried up the falls one and a quarter miles from its confluence with the lake. Here the river is contracted between high ledges of rocks; and in the distance of 100 yards, over three successive shoots falls in aggregate about 30 feet, affording one of the finest water privileges possible.

From the foot of the falls to the lake, the river flows between banks, elevated from 8 to ten feet, upon either side of which, hundreds of acres of white alluvial lands are spread out, which are susceptible of the highest state of cultivation, and will, when cleared, produce all the grains and vegetables necessary for the support of any required mining force.

This intervale land is now clothed with an exceedingly heavy and thrifty growth of sugar maple, with a few large scattering pines, quite sufficient for the supply of all necessary fuel and timber for building purposes. In short, few, if any of the mining locations upon either of the lakes, combine greater advantages, and which are likely to lead to successful mining, than are here furnished.

At both Spanish and White Fish rivers, there will be found the finest harbors, securely sheltered from all storms, and a depth of water sufficient for the safe admission of any vessel navigating the lake.

In the foregoing, I have endeavored to furnish an accurate statement of the advantages as well as surface description of the different veins embraced within the boundaries of the location which, by my recommendation, have been secured to the Upper Canada Mining Company.

Their appearance, in connection with the samples of ore furnished therefrom warrant me in believing, that no greater inducements are held out for the elistment of capital in mining enterprises, with an equal prospect of speedy return, than are to be found in the lands belonging to this company upon Lake Huron.

Of the interior comparatively but little is known. A large proportion of my time was unavoiduably taken up in the transmission of news to and from the Saulte Ste. Marie, and in the conveyance of provisions, tools, etc. It is therefore confidently believed that subsequent enquiries, and a more minute examination, will lead to the discovery of veins, equally as valuable as those already examined.

Here I beg leave to acknowledge the obligations I am under to my assistant, R. J. Gravernet, Esq., who, upon all occasions, has exerted every effort to forward the interests of the company.

Very respectfully, your ob't serv't,

T. W. BRISTOL,

Agent U. C. Min. Co., Lake Huron.

HAMILTON, C. W., Nov. 25, 1847.

Southwestern Railroad.

Report on the Preliminary Surveys and Estimates for the Southwestern Railroad, from Macon to Fort Gaines, on the Chattahoochee river, and the Gulf of Mexico; with Branches to Columbus and Albany. By F. P. Holcomb, Civil Engineer.

ENGINEER'S OFFICE, S. WESTERN RAILROAD,
MACON, November 27th, 1847.

To Elam Alexander, Esq., Chairman of the Commissioners, Southwestern Railroad.

SIR:—Having performed the duty of making the preliminary survey and estimates for the Southwestern Railroad, entrusted to my care, it becomes a further part of that duty to submit the following report:

DESCRIPTION OF THE ROUTE.

The survey commenced in the Perry road, at station forty-nine of the line recently surveyed for the extension of the Central railroad to Columbus—being nearly one mile from the Market house in Macon, where that survey had its commencement. and a short distance beyond a small stream, known as Rogers' or Town branch.

From this point, the route, taking the di-

rection south twelve degrees thirty minutes west, leaves the Perry road to the right, as also the elevated and somewhat broken ground over which that road passes southward of Troup's Hill. This part of the line might be described as occupying the second low grounds, or levels, of the Ocmulgee river; being, however, not much less elevated than the ground on which the lower part of the city of Macon is situated. The ground occupied by the line continues of this character until a small stream is reached, known as Chestnut Branch—the line, in its progress to this point, passing through the plantations of Dr. Thompson, Mrs. Brown, Dr .Germon and Mr. Parker.

In crossing Chestnut Branch, an embankment of about thirty feet in height will be necessary, but not of such length as to render it a work of any considerable magnitude. From this point, which is about two and three-fourth miles from the market house, the line bears to the right, and attains the slope of the high ground, or table-land, and is conducted along it at the maximum rate of ascent (which will be alluded to hereafter,) until the summit of the table-land, in question, is reached, about half a mile to the left, or east, of Mr. Beddingfield's, and near what is known as the White Pond. In attaining this summit, a cut of twenty feet becomes necessary, but by passing the line through the pond, (which is frequently dry,) it is rendered of moderate length; and which need not have been particularized here, but for the fact that this cut, and the fill at the Chestnut Branch, comprise the heaviest work between the city of Macon and Tobasufkee, and which is sufficient evidence of the practicability of this part of the route, at a small cost.

The line passes out of the White Pond at a depression at its southern extremity, and soon falls into a hollow, making up from Wise's Branch, by which, and the branch in question, the line is conducted to the Tobasufkee creek. The meanderings of the branch. however, render it necessary, having regard to proper alignment, to cross it at two different points.

The point at which the line reaches the creek swamp, is about two thousand feet, or a trifle over a third of a mile, below the causeway; and in its course across the swamp is nearly parallel to it, or south two degrees, forty-five minutes east. With reference alone to high-water mark, an embankment across the swamp of from six to eight feet, would have been sufficient; but this matter required to be settled entirely by the grade, to support which, at the maximum which has been adopted, it becomes necessary to embank on the northern side of the swamp, to the height of twenty feet, which, near the middle, runs down to about eight feet, and again runs up on the southern side to twenty-five feet. The swamp at this point is found to be four thousand feet, or about three-fourths of a mile, in width. This is about eight hundred feet wider than the swamp proper, where it is crossed by the causeway; but if the second low ground, at that point, but slightly elevated above the swamp, and which would require to be embanked from eighteen to twenty feet, be taken into account, there is but little difference between the two crossings—while the former affords superior advantages to the latter in reaching the table-land on the southern side of the Tobasaufkee.

The line is carried,after leaving the swamp, up the hollow of a small branch coming into the creek at this point from the south, which has its head near the Hawkinsville road, about three fourths of a mile from the toll-gate. From this hollow, the line passes by a moderate cut, into the east prong, or hollow, of Collins' Branch—which will be remembered as crossing Perry road, near the toll-house, and pursuing a parallel course with the road to the creek.

This latter stream seemed to hold out inducements for the line to pursue it throughout its whole length, and a careful examination of it was made with this purpose. In this event, the line would have crossed the swamp near the causeway; but while it was found by careful comparison, based upon actual estimates of cost, that this route had little or nothing to recommend it on that score, it was highly objectionable on the score of alignment. The examinations in detail, alluded to, of this part of the route, have been made since the return of the party from the survey of the main line, and with reference to the definite location of a portion of the line, for the purpose of immediate commencement of operations on the road. And it gives me pleasure to add, that a considerable force is now engaged in grading on this part of the line, having commenced on the 13th instant.

The skill, industry and perseverance, which so eminently characterize the gentlemen who have had the honor of first breaking ground in this important enterprise, are a warrant of the rapidity with which the work undertaken by them, will progress.

After crossing the Hawkinsville road, and attaining the east prong, or rather hollow of Collins' branch, for it is hear dry, the line pursues it to its head, where the summit between the Tobasaufkee and Echeconnee is reached. In crossing this summit, a cut of moderate length, but about thirty-three feet in depth, becomes necessary; and which is embraced by that part of the line alluded to, as having been located.

From this point, the line pursues a nearly straight course to the Echeconnee, over ground highly flattering to the eye, being of a character similar to that traversed by the Perry road, between the two creeks; but which was found, perhaps, less favorable on an instrumental examination, than might have been anticipated—but which, however, presents no serious difficulty. Farther examinations will remove, it is confidently believed, whatever of an unfavorable character may attach to this part of the line.

The Echeconnee is reached about half a mile below the bridge, on the Perry road, and, as in crossing the Tobasaufkee, the height of the embankment is governed by the grade, without reference to high-water mark—to support which, both in the approach of the line, and its departure, an embankment of about thirty feet in height, will be necessary, though but about half the length of that in the Tabasaufkee swamp,—or a trifle over one-third of a mile.

At this point, and in attaining the summit of the table-land, lying between the Echeconnee and Mule creek, it was forseen from the result of the surveys for the Columbus extension of the Central railroad, difficulties in the way of an economical line, would present themselves, rendering in all probability, this part of the line the most expensive portion of the route, for the same distance; and the result of the preliminary survey has shown that these apprehensions were not without some foundation. The table-land in question presents features somewhat peculiar to itself—for while it is elevated two hundred and thirty-one feet, which elevation is reached but a short distance from the creek, it affords not a single tributary to the Echeconnee, by pursuing which, the table-land might be attained, from the mouth of Juniper creek, (which is too high up for the present purpose,) where one line (afterwards abandoned) of the late Columbus survey crossed the Echeconnee, to the junction of the last mentioned stream with the Ocmulgee.

The expedient of carrying the line up the creek, along the slope of the hill, was therefore adopted, until a sufficient distance could be attained, to overcome at our maximum grade, the elevation in question. For this purpose an embankment of thirty feet in the Echeconnee, as before alluded to, was assumed, and the line then carried up the south side of the creek, along the hill side, crossing the Perry road near Mr. James Glosson's, and leaving it to the left, until the summit is finally reached with a cut of forty-five feet, and about one-fourth of a mile in length, in the plantation of Mr. B. H Gray. Without doubt, a more minute examination of the ground, than the time then at command would warrant, will lead to a considerable improvement in this part of the line. This point is two hundred and thirty one feet above the creek, and five hundred and eleven above tide-water.

A short distance beyond Mr. Gray's, the line crosses the Fort Valley road; and leaving it to the right, takes the general course of what is here known as the New Rest road. It soon reaches the head of a dry hollow, nearly three miles in length, and very direct in its course, which is pursued in common by the line and the New Rest road, to Mule creek. After crossing Mule creek at this point, the line bears to the left, down that stream to near its junction with Mossey creek, leaving the somewhat elevated ridge of land which divides these creeks, entirely on the right. Some examinations were made with reference to carrying the line across the ridge in question; and although these examinations were not attended with entire success, still it is believed advisable, that they should be renewed previous to the final location of the road; as if successful, a saving in distance—perhaps not very considerable, however—would be effected.

Having reached Mossey creek, the line is carried up the valley of that stream, on the north or left side of it, to near where the creek is crossed by the New Rest road, where the line also crosses. Skirting along between the base of the hill and the edge of the swamp, for a little upwards of a mile, it is finally carried along the slope of the hill, at the maximum rate of ascent, crossing the Fort Valley road between Williamson Mimms' dwelling and mill. Here reaching a hollow coming into the creek from the south, it is conducted by it to the summit of the table-land on which Fort Valley is situated, which is attained with a cut of twenty-five feet.

The line, as will be perceived, is here on the right, or west, of the Fort Valley road. Continuing upon the same side, and not very distant from it, the survey is carried over favorable ground to Fort Valley.

At this place, and in its neighborhood, a very lively interest in the enterprise was manifested; and it may not only be expected to contribute largely to its construction, but also much towards its future support and prosperity, by the amount of business which will seek the road at this point.

Still keeping to the right, or west, of what now becomes the Traveller's Rest road, the line reaches Big Indian creek, near where it is crossed by the road in question, and crosses both the road and the creek at or near the same point. Big Indian is crossed with a fill of thirty feet, but the valley is hear so narrow as to render it a work of no considerable importance. The line then bears to the left, along the crest of the hill, bordering the creek, until a second hollow or valley, (formed by another prong) of Big Indian is crossed, about one mile from the first; when the line pursues, over ground admirably adapted to the purpose, a direct course to the head of Beaver creek.

From Macon to Big Indian, comprises the most difficult and expensive part of the line; though I would have the terms difficult, and expensive, understood as only used in comparing it with the remainder of the route, and as not applicable to that part of the line in fact, as the estimates for grading will show.

After crossing Big Indian, it became necessary to consider the best route by which to reach the Flint river. Two routes presented themselves. The first of these was by the valley of Beaver creek, which would conduct the line to the Flint, about one and a half miles above Traveller's Rest. The second was to leave Beaver creek and its tributaries entirely on the right, and skirt around upon the ridge, dividing the waters of Beaver creek from those of Big and Little Indian, Mill and Horse Head creeks. By pursuing this latter route, the survey might still have reached the Flint at, or near the mouth of Beaver creek; or might have dropped still lower down, reaching the Flint near Traveller's Rest, or below. A careful reconnoisance showed that the features of the country were such as to admit of a favorable line by this route, and the question, therefore, resolved it self mainly into one of distance; and as the Beaver creek line was believed to have considerable superiority on this score, other things being equal, it was of course adopted. The superiority of the Beaver creek route over the other, in point of distance, which had been at first a matter of opinion, was, in the further progress of the survey, placed beyond doubt.

Had the citizens of Perry, by some exertion on their part—but in which their neighbors of Fort Valley have so far excelled them—secured the route past that place, (and which, in my opinion, is the true route for the road, not considered, however, as a question of cost, perhaps, so much as which will afford the greatest revenue to the road when completed,) the latter route might have laid claim to the same preference on the score of distance, which has been awarded to the Beaver creek route in this instance.

By reference to the map, it will be observed that a more direct line would be obtained by crossing the Flint considerably above the mouth of Beaver creek; but the obstacles presented in the features of the country which would be traversed by such a line, were too many, and too evident, to warrant, it was believed, even to attempt. An elevated table-land lifts itself suddenly and boldly above the river, having its commencement a short distance below the point where the survey for the Columbus extension of the Central railroad reaches the Flint, and extending entirely down to the mouth of Beaver creek. A stream, known as Johnson's Mill creek, it is true, cuts its way through this table-land, and falls into the Flint river above Lanier—but their appeared to be but small hope of its affording a favorable, or even practicable line. Still I am not prepared to say that this subject will not deserve further examination—though I cannot promise much hope of success. Besides, this route would deprive Dooly county, in a great measure, of participating in the advantages of the work.

The route down Beaver creek, having been selected as the most eligible route to the Flint river, the line after passing near Mr. William Felton's, whose place is known on Mr. Bonner's map, as Marshallville, soon reaches the west prong of Beaver creek, and is carried along the east or left side of the creek, to the junction of the two branches, near Low's mill; where the west prong is crossed. The line is thence continued down the west side of the valley, over ground affording a highly economical line, to the entrance of the creek, into the Flint river swamp.

The first two and a half miles of the descent of the valley of Beaver creek, is made at the maximum grade. For the remainder of the distance, the grade descends with the easy inclination of the creek.

The line enters Flint river swamp about nine hundred feet above the bridge over Beaver creek, on the river road, and something over a mile from Traveller's Rest. The direction of the line is here westward, differing from its general course down the creek, which is nearly south. The change from the southern to the western direction is, however, gradual, and the sudden bend (almost or quite a right angle) shown on Bonner's map—and in justice to him and his excellent performance, I should say, on the district maps also—is not found to exist.

The distance from the point where the line enters the Flint river swamp to the run of the river, is a trifle over half a mile; and the whole width of the swamp, on both sides of the river, is but about nine-sixteenths of a mile. And the ground is found so singularly favorable, being a high, open and firm swamp, or rather hammock, that, taken in connection with the fact, that the width is less than either at the Rest ferry below, or Rushing's ferry above, it is almost a cause of wonder this point had not been selected as a site for a ferry.

The only unfavorable circumstances to which I have to allude, in reference to the passage of the line over the Flint river, is an unfortunate bend, or sweep, made by Beaver creek in the river swamp, which I fear will subject the located line, should this crossing be selected, to the necessity of crossing the creek twice. The line as run, leaves Beaver creek entirely to the left; but this subjects us to a curve in the swamp, which would probably be more objectionable than crossing the creek—especially as a considerable space will be required for the passage of the river in time of freshets; and it can make but little difference whether, as regards the expense, this occurs on dry ground, or is thrown over the run of Beaver creek, where the line comes in contact with it. An island of the river, which is a short distance on our right where the river is crossed, and which extends upwards for more than half a mile, is in the way of throwing the line to the right, so as to avoid crossing Beaver creek. This island is low, sandy and unstable, showing evidences of constant changes in the channel; and besides having to cross both channels, another disadvantage would arise from the fact, that they would, or at least one of them, require to be crossed quite obliquely. The whole distance across the swamp would also be increased.

To run so much to the right as to leave the island below, would throw us above the mouth of Buck's creek, which comes into the Flint on the west side, and involve the necessity of crossing that creek—besides lengthening the line.

The distance to the river is forty-eight miles and a half, which a located line will reduce to forty-eight miles at most.

A short distance from the river the high land is attained, and the line carried beyond the reach of freshets. The swamp was found to overflow about eight feet in the March freshet of 1841—the range of which was pointed out to us, and carefully noted for future use, in adjusting the height of the embankment and bridging.

When the high ground is reached on the west side of the river, the line is distant from, and below the mouth of Buck's creek, about three-fourths of a mile, and near the mouth of a small stream, known upon the maps as Buck Head, and by the inhabitants as Mill creek. This stream is crossed by the line a

short distance from its mouth. The route now takes the general direction north eighty-five degrees west, bearing rapidly away from the last mentioned stream to the right, and attains at once the ridge between Buck Head and Buck's creek—the moderate elevation of which, near the river, consisting of a sort of second low lands at first, and thence gradually rising within the reach of the grade, favored our purpose.

The ridge between the two creeks for some four miles from the river, is of considerable width, and so uniform in its cross-sections—while but gradually increasing its elevation, as to admit the line being thrown upon any part of it, which may most favor its direction. About five miles from the river, however, the ridge becomes narrower, and more clearly defined, and limits the choice of ground to a narrow strip or belt, having on the right, steep and abrupt hollows making into Buck's creek, and on the left, hollows of Buck Head, though less abrupt in their descent than those on the right. While the former, therefore, will require a strict adherance to the ridge on that side, the latter may occasionally be crossed a short distance from their heads, where the alignment will be improved by such a course.

As the ridge decreases in width, curves will become of more frequent occurrence, and occasionally perhaps, of a minimum radius--though occurring upon easy, and perhaps sometimes level grades. This portion of the line will not be objectionable however, on the score of curvature. In profile, the ridge continues to present the same features alluded to, as characterizing it at first, until a point is reached where the roads from Lanier and Traveller's Rest intersect, near a point marked upon the map, as "Martin's;" where the ridge changes, as I may say, its name, and in some degree its character—that is, it becomes the dividing ground between Buck's creek, and Sweet Water, or what is known here as Camp creek, and presents a more undulating surface or profile.—At this point, the head waters of Buck Head have of course been passed. At the junction of the roads in question, the distance from Traveller's Rest is seven miles, from Lanier twelve miles, from Pondtown, eleven miles. From this point for some miles the line departs but little from the road; but frequently shifting its position from one side to the other.

About seven miles from the Pondtown road, and a short distance below Mott's, a somewhat sudden depression in the ridge is encountered: which is the first point involving much expense this side of the Flint.—The ridge here becomes narrowed down to scarcely a hundred feet in width, (with an abrupt hollow, of Buck's and Camp creeks, on either side) on top of which, for a little distance, a fill of thirty feet will be necessary.

The summit of the ridge having again been reached beyond this depression, the line runs upon the left hand of the road for a mile and a half, to Mott's plantation, where the road is again reached.

From this point, the ridge is so narrow, and the crest of it, which the line would necessarily occupy, being so nearly occupied by the highway, that it was thought sufficient for all the purposes of the survey, to carry the line immediately along the road. This course was therefore adopted, and the line carried along the Pondtown road to Burton's, where the road to Columbus forks.

The Columbus road is then pursued by the line, carrying us about half a mile to the right, or north of Pondtown—still following the same ridge, except that a short distance below Pondtown, the head of Camp Creek (or White Water) is passed, and a short distance above the same place, it becomes the ridge between little Muckalee, (called simply Muckalee, on Bonner's map,) and Buck's creek. I may as well notice the fact, that to pursue a direct course, the line would pass from a mile to a mile and a half, to the right, or north of Pondtown, instead of half a mile. A tributary of Buck's creek, called Deer creek, which heads within half a mile of Pondtown and runs a northerly course, would have to be crossed, by the more direct line alluded to—to head which, by pursuing the ridge, involves a loss of distance of some amount; whether the saving of distance would more than counter-balance the difficulties, by this route, cannot now determine.—In the location of the road, this matter might deserve attention. The distance to Pondtown, or opposite that place, was found to be by the line, sixty-seven miles, or one mile less than the highway, and a location would somewhat shorten this distance. Pondtown was found to be at an elevation of 300 feet, above the Flint, and 578 above tide-water.

Having reached Pondtown, it became necessary to consider carefully the best direction for the continuation of the line, and the most eligible point for making the deflection southward. As the distance within which it has been thought advisable to approach Columbus (provided the further prosecution of the line in that direction, should be at the expense of the Southwestern line) had been reached, the question appeared to rest principally upon the features of the country; and the route which would afford the most eligible and economical line, was therefore to be prefered.

To arrive at any conclusion on these points, involved the examination of a considerable scope of country. This duty was performed as thoroughly as the time at command would permit. One conclusion arrived at was, that the further prosecution of the survey in a westerly direction, would not be attended with detriment to the South Western line, while it would further lesson the distance to Columbus.

The question soon narrowed itself down to two routes, either of which would preserve a westerly direction, to a point about seven and a half miles beyond Pondtown, and of course so much nearer Columbus—or say thirty-seven and a half miles from that place. This, it will be observed, is but one-half the distance from Columbus to Barnesville. It should be stated in this connection, however, that the distance from Pondtown to Columbus by the highway, from which this distance is deduced, has never been measured, and is therefore only guess work. But by measuring the distance in a straight line upon the map, from Pondtown to Columbus, it is found to be forty miles; and it is confidently believed, that the excess of five miles (the distance being called forty-five miles) will fully cover the difference. The distance from Macon to Columbus, measured upon the map in a straight line, is eighty-four miles, and the length of the line for the Columbus extension of the Central railroad being ninety, shows an excess of only six miles in eighty-four; and in the same ratio, would make the distance from Pondtown to Columbus, less than forty-three miles, and the nearest point of the line to Columbus, as distant but thirty-five miles; and it is believed, that a branch to Columbus can be had in equally as direct a course, as is pursued by the line from Macon to Columbus. The country, so far as it fell under our observation, is of a highly favorable character.

To this point, or about seven and a half miles west of Pondtown, the two routes alluded to are common, and occupy the same ridge upon the south side of Buck's Creek, successfully pursued, as already described, from the Flint river, a distance of some twenty-five miles.

By this course Little Muckalee is left entirely on our left; and the crossing of that creek, together with some of its tributaries, which would be the result of an earlier departure from a westerly direction, is wholly avoided.

The routes, (if I may so speak of them here) still preserving the same identity as to the ground occupied, for a short distance further, taking a south-west direction, soon reach the head of a small stream, known as Boon's branch, a tributary of Big Muckalee. About half a mile from the south of this branch, the adopted line bears to the right; and crossing the branch, and the spur of land in the fork between it and the Big Muckalee, attains the eastern slope of that stream, and is carried up it, in the general direction, north sixty degrees west. At the same time that the bed of the creek is ascending, the grade descend at the maximum rate, until we are able to cross the creek about three-fourths of a mile above the mouth of Boon's branch, and a short distance below Frasier's Mill, with a fill of twenty five feet. The valley is here quite narrow, and the slopes abrupt, affording, therefore, a favorable crossing. This point is near the intersection of Marion, Sumter, and Stewart counties, and nearly due west from Pondtown.

The other route alluded to, as having held out inducements, would continue down Boon's branch to its mouth, and thence following down the valley of the Big Muckalee for three-fourths of a mile, passing Jenkins' Mill, finally reach the mouth of a small tributary coming into the Muckalee from the south-west, which would conduct the line to the summit, between the Muckalee and Lannahassee. Thence following down the Lannahassee, the line would reach the Kinchafoonee at the mouth of the former stream.

Thus far, this route would be highly favorable, and indeed this route was at first preferred. But before reaching the point on Boon's Branch, where the two routes diverge, a different conclusion was arrived at. This was in consequence of a more extended reconnoisance on this route, bringing to view difficulties that would be encountered on the other side of the Kinchafoonee—by adopting what may be called the Lannahassee route. These difficulties consist principally in crossing Bear Creek; and its tributaries, which it was believed might be entirely avoided by a different route, which was therefore adopted, and to which your attention has already been drawn as far as Frazier's Mill.

It is possible that the Lannahassee route might present some small advantage on the score of distance, provided the Buck's Creek ridge was left at or near Pondtown; but this, as already stated, would involve the crossing of the Little Muckalee, and some of its tributaries, which it is believed would counterbalance any small saving in distance, that might be the consequence—especially if the fact, that the distance to Columbus would be very much increased, should have any weight in the decision. In the final location of the line, it may be best to review these questions, and submit the merits of the different lines that may claim attention, to the test of actual survey. I will now continue the description of the adopted line, from Frazier's Mill.

From this point, the line pursues the valley of a small stream, called Watley's Creek, which empties into the Muckalee, half a mile below the mill. For some distance the line lies from two to three hundred yards from the creek, on its northern slope, which affords a highly favorable route, until at the distance of about a mile and a half from the Muckalee, it becomes necessary to cross the creek, the direction of which is now too much northerly, and to follow up a small branch coming in from the west. In crossing Watley's Creek we are involved in a fill of about forty-five feet for a short distance, when the ground is again favorable, and continues mainly so, to the head of the branch in question, by which we reach the summit between the Muckalee and Kinchafoonee—having the extreme head hollows of the Lannahassee on our left, which stream is consequently avoided by this route.

At this point a south-westerly direction is again resumed; the line now pursuing the ridge between the Lannahassee and Kinchafoonee.

It was ascertained that the direction of this ridge, for the distance of about eight miles, was highly favorable; and in its profile it was hoped that it would be found to have a regular inclination, at least equal to that of the Kinchafoonee; so that the descent to that creek could be undertaken under as favorable circumstances at one part of the ridge as another. A small tributary of the Kinchafoonee, having its head in the western slope of the ridge in question, and running into the Kinchafoonee opposite the mouth of Slaughter Creek, it was hoped would afford the means of effecting this descent. The result disappointed our hopes—at no time, however, very sanguine. After submitting to a cut of forty feet at the head of the tributary or branch in question, and descending to the Kinchafoonee at our maximum rate of grade, it was found that this route involved us in a fill in the Kinchafoonee swamp of eighty feet, and of course rendering it impracticable at a reasonable cost. This disappointment arose principally from the fact, that the ridge, instead of taking the inclination of the creek on either side, preserved its elevation with a singular obstinancy—if I may so express myself—showing in eight miles a fall of but about nine feet. This, taken in connection with the fall of the Kinchafoonee, constantly widened, instead of diminished the difference in elevation between the two.

But a ready expedient was at hand, and which, indeed, came near being adopted at first, by which the descent from the ridge to the creek, might with certainty be effected, at a moderate cost. This consisted in running down another and more lengthy tributary of the Kinchafoonee, known as Fox Creek, heading on the western slope of the same ridge, six miles higher up, and falling into the Kinchafoonee about two miles above the mouth (of course on the opposite side) of Slaughter Creek. This stream affords sufficient distance to make the descent certain, and attended with no unusual expense. As is common in carrying grade lines along the slope of a valley, small branches and heads making into it, require sometimes to be crossed with somewhat elevated, though usually short embankments.

No instrumental survey of the Fox Creek route has been made, farther than to ascertain the fall from its head to its mouth, (which the notes of the line surveyed afford,) together with the distance The time at command was thought insufficient for an actual survey; and, indeed, as the important facts were already in our possession, on which to base the estimates of cost, etc., it was thought entirely unnecessary to the present purpose. About one mile and a half will be the greatest variation from the line as run—which passes near Searsville, and at which point the greatest variation will occur.

The line as projected or located on the map intended to be lodged in the department of state, agreeably to the 16th section of the Act of Incorporation, embraces this improvement, as also all others, where it is thought advisable to depart from the line as surveyed.

This brings the line to the Kinchafoonee, down which the route, as proposed, would run, to opposite the mouth of Slaughter Creek—or say about two miles. The Kinchafoonee swamp was found to be about half a mile wide, but presenting no considerable difficulties, either as to the depth of the overflow, or in any other particular.

The line then follows up the southern side of Slaughter Creek, between the base of the hill, and the swamp, affording, upon the whole, an eligible route. About two miles from the mouth of Slaughter Creek, the line reaches the mouth of Jossey's Mill Creek, a tributary of Slaughter creek, coming in from the south-west, and having its head within a little over a mile of Richland, better known as Box-Ankle. Up this latter creek, the line is now carried, and for a considerable portion of the distance, at our maximum grade, which finally brings the line to its head with a cut of twenty-five feet.

At Richland, which place the line passes immediately through, the ridge dividing the waters of the Flint and the Chattahoochee, is fully attained; the heads of Bear creek, falling into the Kinchafoonee, being on the left, and those of the Hannahachee, falling into the Chattahoochee, on the right. The elevation at this point is found to be 598 feet above tide, and the distance from Macon 97 miles, which of course a location of the line would somewhat reduce. The distance is posted by the highway 100 miles. The distance to Columbus is called 37½ miles, to Cuthbert 25, to Fort Gaines 45, and to Lumpkin 8¾ miles.

From Richland, the line takes a southerly direction, along the ridge above alluded to, which was so favorable as to invite the continuance of the line upon it until the close of the survey; and will continue to offer inducements in its further prosecution.

Having reached a point where the ridge between Bear creek and the Ichawaynochaway branches off, about seven miles south of Richland, the question of the best point of divergence for the branch to Albany, began to present itself; at which point, when ascertained, the survey, according to instructions, was to terminate. This matter has been investigated as fully as the time at command would permit; and a reconnoisance, having this matter in view, has been extended over a considerable section of country, embracing portions of Stewart, Randolph and Lee counties. The country appears to present two different routes.

The first would leave the main line from six to eight miles south of Richland, and following the ridge between the Kinchafoonee and the Ichawaynochaway, would not necessarily cross a single water course in the whole distance to Albany—which, in a straight line, is 42 miles; and it is doubtful if a located line would reach 45. So far as this route has been examined, which is about 20 miles, it is unsurpassed in the facilities it affords for a cheap line. I think I risk little, in the expression of opinion, that the grading could be done for an average of $2,000 per mile—if not for a less sum.

Another route, would diverge near the upper line of Randolph, pass near Brooksville, and running down the ridge between the Little and Big Ichawaynachaway, finally cross the latter stream, and the Chickasawhachee, and pursue a direct route to Albany. The distance would be somewhat in favor of this route, say by two or three miles, and the country would, upon the whole, be favorable—as after passing south of Stewart county, a change takes place in the features of the country,—which becomes more flat, and the streams less depressed beneath the adjacent table-lands, rendering their passage of more easy accomplishment.

MAP

of the Route Surveyed

For the

SOUTH-WESTERN RAIL ROAD

From

MACON TO THE CHATTAHOOCHEE RIVER:

Exhibiting it in connection with the Central Rail Road, the proposed extension to the Gulf of Mexico, and its relation to most of the Southern improvements.

Survened by

F.P.HOLCOMB;

ASSISTED BY

J.W.HOUSTOUN.

DRAWN BY VIRGIL POWERS,

Nov.r 1847.

Lith. of Wagner & M.c Guigan, 116 Chesnut St. Philad.a

Tennessee River
Chattanooga
WESTERN AND ATLANTIC RAIL ROAD
Athens
CLARKE
OGLETHORPE
DE KALB
WALTON
ATLANTA
MACON AND WESTERN RAIL ROAD
GEORGIA RAIL ROAD
NEWTON
MORGAN
GREENE
TALIAFERRO
FAYETTE
HENRY
BUTTS
JASPER
PUTNAM
HANCOCK
COWETA
Griffin
101 MILES
MERRIWETHER
PIKE
TROUP
State Road
MONROE
JONES
BALDWIN
WASHIN
UPSON
WILKINSON
West Point
TALOPOOSEE
CHAMBERS
Tobesofkee Cr.
MACON
BIBB
HARRIS
CRAWFORD
TALBOT
Fort Valley
HOUSTON
Perry
COLUMBUS
MACON
RUSSELL
MUSCOGEE
MARION
PULASKI
LAURENS
ALABAMA RIVER
Montgomery
Upatoy Cr
Branch to Columbus
Bucks Cr
Pond Town
Camp Cr.
MONTGO
MERY
LOWNDES
STEWART
SUMTER
DOOLY
BARBOUR
BUTLER
PIKE
Branch to Albany
RANDOLPH
LEE
Pataula Cr
SOUTH WESTERN RAIL ROAD
Muchalee Cr
Albany
PORT GAINES
Brooklyn
COVINGTON
DALE
HENRY
EARLY
BAKER
Pea River
Graded to Brooklyn
Connecuh
Escambia River
Pensacola Rail Road
Florida
SANTA ROSA
WALTON
Choctawhatchee River
JACKSON
Chattahoochee R.
Spring Cr.
Flint River
DECATUR
Yellow Water River
Mobile Bay
Pigeon Bay
PENSACOLA
Pensacola Bay
Choctawhatchee Bay
WASHINGTON
Chipola River
St. Andrews Bay
ST ANDREWS
Apalachicola River
CALHOUN
St. Josephs Bay
FRANKLIN
GULF OF MEXICO

SOUTH CAROLINA

ATLANTIC OCEAN

CHEROKEE
FANNIN
UNION
GILMER
LUMPKIN
HABERSHAM
RABUN
DAWSON
HALL
FORSYTH
FRANKLIN
STEPHENS
HART
ELBERT
GWINNETT
DEKALB
WALTON
NEWTON
MORGAN
GREENE
OGLETHORPE
CLARKE
Athens
PICKENS
GILMER
PAULDING
COBB
CHEROKEE
FULTON
CLAYTON
HENRY
BUTTS
JASPER
PUTNAM
HANCOCK
JONES
BALDWIN
WASHINGTON
JEFFERSON
LINCOLN
WILKES
TALIAFERRO
WARREN
COLUMBIA
RICHMOND
AUGUSTA
HAMBURG
EDGEFIELD
ORANGEBURG
BARNWELL
COLLETON
MONROE
TWIGGS
WILKINSON
BURKE
SCRIVEN
EFFINGHAM
BEAUFORT
CRAWFORD
MACON
Tobesofkee Cr.
BIBB
Pohecoonee Cr.
Port Valley
Big Indian Cr.
Perry
HOUSTON
LAURENS
Oconee River
MONTGOMERY
EMANUEL
BULLOCH
BRYAN
LIBERTY
TATTNALL
M.c INTOSH
PULASKI
DOOLY
Bucks Cr.
Beaverdam Cr.
Camp Cr.
Ocmulgee River
ALTAMAHA RIVER
SAVANNAH RIVER
OGEECHEE RIVER
SAVANNAH
Combahee River
Coosawhatchee River
Edisto River
Ashley R.
CHARLESTON
GEORGIA RAIL ROAD 171 MILES
CHARLESTON AND HAMBURG RAIL ROAD 136 Miles
CENTRAL RAIL ROAD 190 MILES
101 MILES

Scale of Miles

ON STONE BY JACOB AUB

In view of this state of facts, it was decided to continue the main line to the upper line of Randolph county, and there to close the survey,—which is as nearly in compliance with the instructions to "terminate at the most eligable point for a branch to Albany," as circumstances would admit. Both, of what are believed to be the most eligable points, are thus shown in connection with the route surveyed.

The most eligable ground for the continuance of the main line will, as before intimated, probably be found along the dividing ridge between the Flint and Chattahoochee, for some distance farther—by pursuing which, Cuthbert will be left from one to two miles to the left. I have already taken occasion to examine the country along this ridge as far as Cuthbert, which may be pronounced favorable,—and have also made a reconnoisance as far as the Chattahoochee at Fort Gaines—which place, or "below," the charter designates as the terminus of the road. The result of the reconnoisance was favorable. The most eligible route, it is believed, would continue upon the dividing ridge between the Chattahoochee and Flint, or their tributaries—which are here, Pumpkin creek and the Socohachee, tributaries of the former, and the Pachitla, a tributary of the latter—passing from one to two miles to the right, or west, of Cuthbert, as already alluded to; until having passed the head of the Socohachee, the line would take a westerly direction to the head of Hog creek.

Falling into the valley of this creek, it would, after overtaking the descent of the stream, by a resort to the maximum grade for about two miles, descend along the second low grounds, or interval between the swamp and hill side, which is of considerable width, and in all respects of the most inviting character, to the junction of Hog creek with the Somochechobee—the valley of which, appears to offer the same, if not greater inducements that that of the former stream, if possible. The line would continue down the north bank of the Somochechobee, to the point where the creek is crossed by the road leading from Cuthbert to Fort Gaines, where a crossing could be effected at, comparatively, a very small expense. The swamp here disappears entirely, and the creek is discharged through a gorge fifty feet in depth, and scarcely an hundred feet in width.

Having reached the southern bank of the Somochechobee, the line might either skirt along it to the valley of the Chattahoochee, or taking, for a short distance, nearly the direction of the highway and leading to Fort Gaines, reach the Chattahoochee valley near where the road from Fort Gaines to the Ferry, descends into it—a short distance above the bluff.

After reaching the valley of the Chattahoochee by either of these routes, the line would then, probably, skirt along the slope of the high land bordering it to the upper edge of the bluff, just alluded to, and on which Fort Gaines is situated, where the Chattahoochee might be crossed, apparently under highly favorable circumstances. The bluff, which is said to be one hundred and sixty feet high, is washed by the run of the river; so that no embankment would be required on the Georgia side, in the approach—neither would the bluff require to be cut down, as the line might approach upon the slope before alluded to, at any convenient elevation.

On the other, or Alabama side, the features of the ground with reference to crossing the river, are less favorable, but not so much so, as to partake of an opposite character. The river flats, which are about a mile in width, and under cultivation to the very bank of the Chattahoochee, are so high as but seldom to come within the range of freshets—and then to but a small extent. The March freshet of 1841, overflowed those flats but from two to three feet. A moderate embankment, therefore, would not only place the road above the range of high water, but also elevate the bridge so much, as to render it practicable to dispense with a draw; which would be regarded by some as an obstacle to the free navigation of the river—already beset with sufficient difficulties, but still likely for a considerable time, to preserve its character of a navigable stream, and to be resorted to for that purpose. It is, however, like most other of the rivers of the country, ultimately destined to yield the palm to the superior speed, certainty and safety of that great revolutionist, the Railroad. If I might be permitted for a moment to wander so far from the subject, I should run but little risk of not being borne out by the fact, were I to predict, (and the prediction is therefore hazarded) that the mighty Mississippi itself, at least for all purposes of travel, will be deserted. We have but to compare the distance by land and water, from New Orleans to Louisville, for instance, to show the probability of this event.

From New Orleans to Louisville by water, is fourteen hundred miles, and by land, six hundred! I hope I shall be pardoned this digression, and allude to the subject more to place the prediction on record, than for any other reason. But of course it will be necessary notwithstanding, to provide for the uninterrupted navigation of the Chattahoochee; and this, it is believed, cannot be done so completely, or perhaps so economically, as by elevating the bridge sufficiently for boats to pass without a draw.

In speaking of the subject of crossing the Chattahoochee, I am of course stepping beyond the present charter, and looking to the extension of the road to Penracola—or some point on the Gulf of Mexico, its ultimate destination. And with reference to its extension, it may be well to notice the fact—that it is not unlikely, but a different and quite favorable line, might be had from Richland to the Chattahoochee, reaching that river at a point more eligible for the continuation of the line through Alabama. This, however, would require a slight modification of the charter, which requires the termination upon the Chattahoochee, as before alluded to, to be "at or below Fort Gaines."

The route in question, would, after passing Richland, in Stewart county, instead of pursuing for some distance the dividing ridge between the Flint and Chattahoochee, as is the case with the line surveyed, fall to the right, or west of that ridge, into the valley of the Pataula creek; and be conducted by that to the Chattahoochee. Whether, however, the same favorable crossing could be had at this point, as has been described as offering at Fort Gaines, is a matter not perfectly clear. But, after attaining the Alabama side, it is believed this route would possess superior advantages. The Fort Gaines crossing would involve a deflection to the right, after crossing was effected, which would place the line, ultimately, upon the same ground which would be occupied by the other route through Alabama—or render it necessary to cross, with considerable difficulty and expense, the Yattayabba creek, which has its head considerably above Fort Gaines, (on the opposite side,) and runs for some distance a nearly parallel course with the Chattahoochee, falling into that river considerably below Fort Gaines.

The route by the Pataula, would pass within ten miles of Eufaula, Alabama—where it is understood thirty thousand bales of cotton, per annum, are received—which would be in itself a decided advantage. The nearest point to Eufaula, on the Fort Gaines route, is twenty five miles.

By crossing the Chattahoochee near the mouth of the Putaula, and thence running, up Hardridge creek, coming into the Chattahoochee from the west, or perhaps a small stream still higher up, which falls into the Chattahoochee, near the line between Barbour and Henry counties, Alabama, the line would leave the Yattayabba on the left, and reach the valley of the Choctawhatchee, and Pea rivers, near the Florida line. Thence, taking a westerly course up Pea river, finally pass into the state of Florida; and either continue a westerly course, not very remote from the boundary line between Florida and Alabama, till it intersected with the Pensacola and Montgomery railroad, already graded beyond this point, about forty miles from Pensacola; or taking the direction of Yellow-water river for some distance, finally cross Middle river, and intersect the Pensacola and Montgomery railroad at the town of Florida, about twelve miles from Pensacola.

It is understood that the Pensacola company is ready to form a junction with the Southwestern railroad, at any point; and not unlikely to meet the Southwestern company on the banks of the Chattahoochee. The Pensacola and Montgomery railroad is graded to the town of Brooklyn, on the Suplaga river, a distance of about seventy miles.—The distance from this point to Fort Gaines, does not vary much from one hundred miles. From Fort Gaines to Pensacola, by the more direct routes, just alluded to, is one hundred and sixty miles.

It may be well to allude to the fact, that the Bay of St. Andrews, affording an equally fine harbor with that of Pensacola, could be reached in the distance of one hundred and ten miles from Fort Gaines, two hundred and

fifty from Macon, and four hundred and forty from Savannah. But the facts of Pensacola being an important naval station, and that the distance from St. Andrews to New Orleans by water, would be one hundred miles further, may award to Pensacola the preference—especially if the Pensacola company should co operate to the extent of the pledges that are understood to have been made by its officers; otherwise the Southwestern company might find it to its interest, to reach the Gulf of St. Andrew's, or possibly St. Joseph's Bay.

These remarks with reference to the route through Alabama and Florida, are made without, by any means, a perfect knowledge of the country spoken of; and are thrown out merely as hints, based upon the best knowledge in my possession. It is however important that the line under the present charter, should terminate at a point on the Chattahoochee, that will admit of its extension, or the junction of some other line with it at this point, under favorable circumstances, which will put the Southwestern railroad in connection with the Gulf of Mexico on the west, as it will be with the Atlantic on the east, in fulfilment of the high destiny which seems to belong to it, and of the grand object of its early projectors and present friends.

It is believed, however, that either crossing of the Chattahoochee which has been alluded to, would present no considerable obstacle in the accomplishment of this object.

BRANCH RAILROAD TO COLUMBUS, OR SOUTHEASTERN RAILROAD.

I will here take occasion to refer to the disappointment and regret of some, probably many persons, residing in the lower counties of southwestern Georgia, below the route traversed by the proposed line of road, that the route passes so much to the right, or above them. This disappointment arises, perhaps from the fact, that the early meetings which were held in southwestern Georgia on this subject, were all to the southward or eastward of this line—principally in Sumter county; and as an air line would fall somewhat more in that direction, the inference was perhaps natural, that the route would probably traverse this region.

I would by no means, however, convey the impression to that part of the public interested in the enterprise, that the present survey settles the question of route—such is, I think I may say, by no means the case. For the citizens along the line surveyed, to flatter themselves that such is the fact, would be to lull themselves into a fatal inactivity and security. The question, I feel authorized to say, is wholly at large. I shall allude to some of the circumstances which influence the commissioners in giving to the route pursued by the present survey, the preference, other things being equal; but if other portions of southwestern Georgia should offer greater pecuniary inducements than that portion traversed by the line, the effect may be anticipated.

It is only necessary to allude to one or two causes which influence the commissioners in their preference, for what may be called the upper route. The principal one is, to facilitate the construction of a branch railroad to Columbus—a railroad connection with which place, is justly regarded as an important feature in this enterprise. It is found that this can be effected in a distance of 37½ miles, as before stated, and over favorable ground.—This object is so important, as to be a sufficient reason in itself—though the face, or topography of the country, has had its influence in determining the question of route.

The distance from Columbus to the junction with the main line, and from thence to Macon, will be 112 miles. A charter has already been obtained for this branch road—stiled the Southeastern railroad.

When it is borne in mind, that this route will possess all the advantages claimed for the route by the way of Barnesville to Macon, that the total distance will be less by about five miles, and that it will require the construction of but 37½ miles of road, against 75 by the other, the Muscogee company's route, and the country affording at the same time a cheaper line—the conclusion is not unreasonable, that the day is not distant, when the Southeastern railroad company will avail themselves of the advantages which their charter affords—whether (which appears to be a matter involving, at this moment, no little doubt, notwithstanding the preliminary steps that have been taken, as I learn from its friends,) the Muscogee company build their road, or otherwise.

Should not the Southeastern company avail themselves of the privileges of their charter, it will, in all probability, be the interest of the Southwestern company to take steps ultimately, towards its construction. Eighty thousand bales of cotton, which are now annually received at Columbus, would be the rich harvest they would reap. There can be no doubt, however, that a large amount of cotton would be wagoned, in the absence of a branch road, from Columbus to the Southwestern railroad—but 37½ miles.

Until the completion of the Muscogee road—should that ever be effected—the whole travel and light goods now hauled in wagons from Barnesville to Columbus, would of course take that route—even in the absence of the branch road in question, or the Southeastern railroad; and it will be seen, this route would become a powerful, if not triumphant competitor for the through travel between the north and south—as it would reduce considerably, the amount of staging to which the traveller is subjected on the present routes. Should the Muscogee railroad ultimately take the field for this travel, the extension of the Southwestern railroad to the gulf—which could not but soon follow—would place that work upon a triumphant footing, which no other object could destroy, or even shake.

This I propose to show in another part of this report, by a comparison of distance, time and expense, between this and the route via Mobile, Montgomery, etc. An approximate estimate of the Columbus branch, based upon a comparison with the ground traversed by the main line, will be submitted.

To be Continued.

KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.
SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

July 31—1y ROBERT GRACIE. New York.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



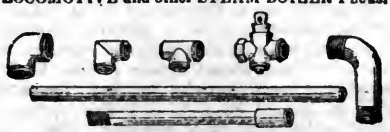
No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

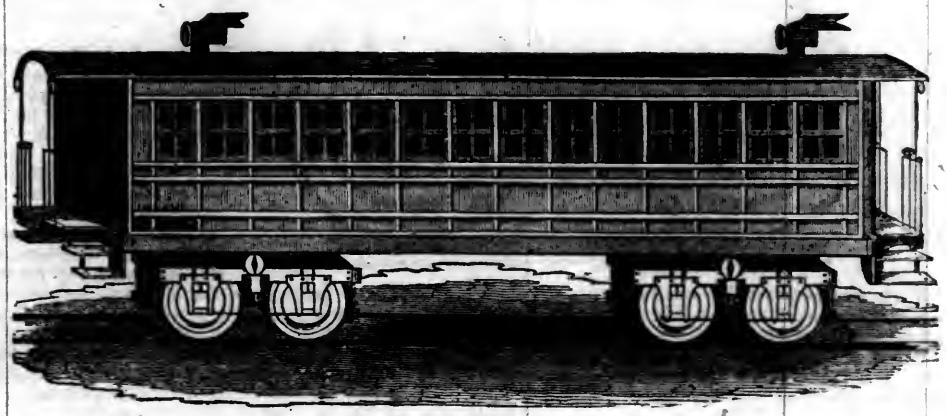
LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.

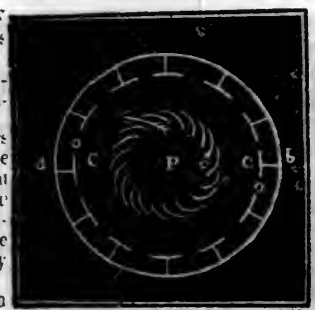


Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

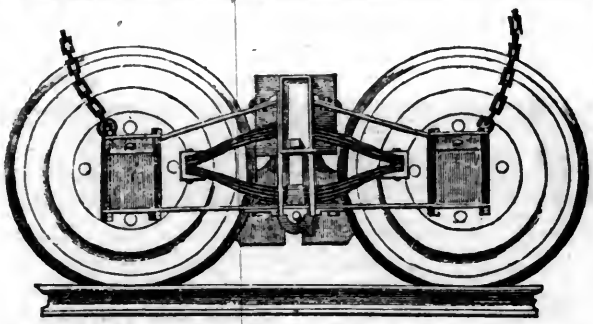
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
1tt Philadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents,
1y48 77 Pine St., New York.

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power. 1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3¼	8	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¼	5	2	6¼	9	4	13¼	1-2	7¼
16	2¼	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee
G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

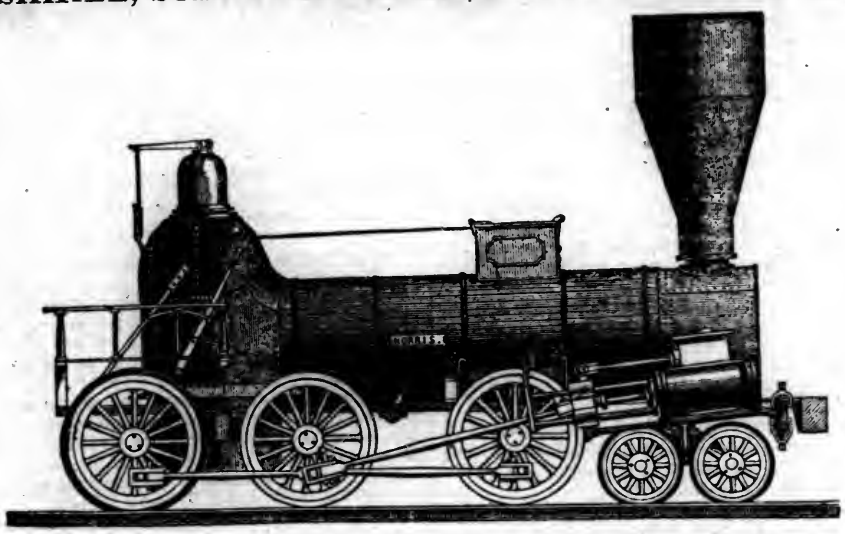
THOMAS PROSSER,
Patentee.
28 Platt street, New York.

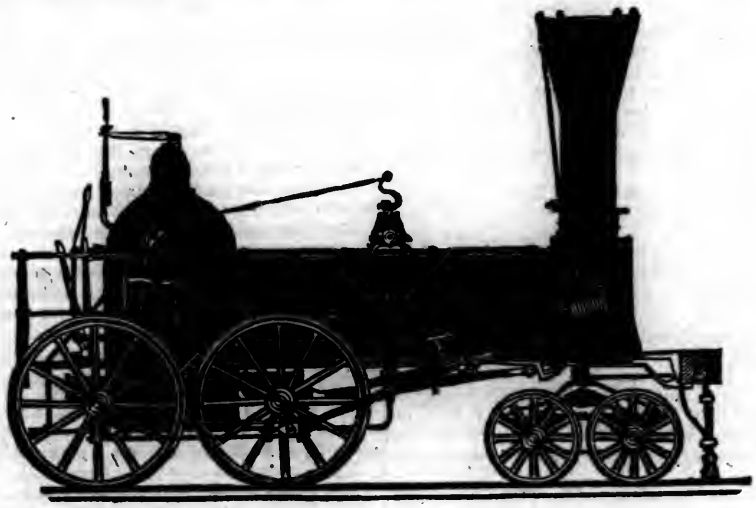
PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*
Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





MANUFACTURE to order Locomotive Steam Engines of every plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS & BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, lrom a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

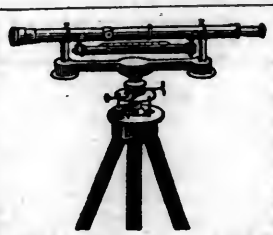
Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,

a15 Paterson, N. J., or 60 Wall street, N. York.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,

12tf Vine St. Wharf, Philadelphia.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,

12 Platt street, New York.

JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,

1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO exrcute orders at their Phœnix Works for Railroad Iron of any required pattern, eqnal in quality and finish to the best imported.

REEVES, BUCK & CO.,

Philadelphia.

ROBERT NICHOLS, Agent,

26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,

Willow St. below 13th,

Nov. 10, 1847. [tf.] Philadelphia, Penna.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

CONNECTION BETWEEN THE BOSTON and Lowell and the Boston and Maine Railroads. On and after April 1st, 1847, passenger trains between these two roads, will run as follows, viz:

Leaving Lowell at 7, 11 1-4 a.m., and 2 1-2, 4 1-2, and 6 1-2 p.m., to connect at the junction in Wilmington with the eastward trains—at 7 a.m. and 2 1-2 p.m. with those to Portland; at 4 1-2 p.m. to Great Falls only, with a detention of 45 minutes at the junction, and at 11 1-4 a.m. and 6 1-2 p.m. to Haverhill only. Leaving the junction in Wilmington, for Lowell, at about 7 1-4 a.m. on arrival of the morning train from Haverhill; at about 9 a.m., on arrival of the morning trains from Great Falls. At about 11 3-4 a.m., on arrival of the morning train from Portland. At about 5 p.m. on arrival of the afternoon trains from Haverhill. At about 7 1-4 p. m, on arrival of the afternoon train from Portland.

WALDO HIGGINSON, Agent

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.


WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:




Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—




Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Neweastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

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CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:




Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.




Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

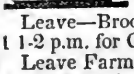
New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1v J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:




Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

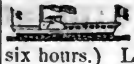
On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
15tf DAVID S. IVES, Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.




Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.
First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

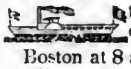
Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

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WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:




Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assnmed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon			$1 00
"	"	" Xenia	1 50
"	"	" Springfield	2 00
"	"	" Columbus	4 00
"	"	" Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.

Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35ly

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CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*

Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,

y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12¼ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 41•1y

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

Between Macon	and Decatur and immediate points.	0 22½	1 54	1 05	0 81	0 86
	and Knoxville & intermediate points	0 22½	1 54	1 10	0 76	
	and Chattanooga.				0 61	
Between Augusta	and Decatur and intermediate points.	$0 24	1 70	1 15	0 85	0 90
	and Knoxville & intermediate points.	$0 24	1 70	1 20	0 80	
	and Chattanooga.				0 65	
Between Charleston or Savannah	and Decatur and intermediate points.	$0 32	2 20	1 35	1 05	1 10
	and Knoxville & intermediate points.	$0 32	2 20	1 40	1 00	
	and Chattanooga.				$0 85	

1st class.—Boxes of Hats, Bonnets and Furniture per foot.....
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Scythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs..
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks, or Crates of Crockery, Hardware, and other heavy articles not enumerated below.
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.....
Per 100 lbs.....
Cotton.

Merchandize shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.
Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot.....	$0 20
Second class, per 100 lbs.....	1 20
Cotton, per 100 lbs.....	0 55
Third class, per 100 lbs.....	0 60
Fourth class, per 100 lbs.....	0 50

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN, ELIJAH PACKARD, ISAAC MILLS, } SPRINGFIELD, MASS.

1y48

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 5] SATURDAY, JANUARY 29, 1848. [WHOLE No. 606, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, January 29, 1848.

The Muscogee Railroad.

It will be seen by the following advertisement that proposals will be received until the 10th of February next, at the office in Columbus, Ga., for the grading and masonry of the whole line of the above road to Barnesville.

"We are happy," says the Macon Messenger, "to find our neighbors of the west waking up to the importance of a connection with the balance of the world, and trust, that the day may speedily arrive, when our friend, WINTER, may be enabled to substitute the locomotive and a magnificent train of railroad cars for his present '*coach and four.*'"

We were not aware that this line had been prepared for the spade. Barnesville is in Pike county, a few miles easterly from Griffin.

This road will be nearly parallel to, and about forty to fifty miles from, the South-Western line, as laid down upon the map in our last—a distance which, in New England, would of itself sustain a railroad, but not so in Georgia; we would therefore say to the friends of both lines, better have *one good* road completed *soon*, than *two* commenced, and *neither* brought into use for years. "In *union* there is strength," but divided energies are often wasted, or are of little avail. As we are not, however, well informed as to the circumstances attending these two lines, we will merely say that, if both are commenced, we shall hold the parties to the completion of both—and with this caution we give the following notice, and call the attention of contractors to it.

SEALED PROPOSALS WILL BE RECEIVED until Thursday the tenth of FEBRUARY next, at the Engineer's office in the city of Columbus, for the Graduation and Masonry of the whole line of the MUSCOGEE RAILROAD, to Barnesville, and a bridge over Flint river.

The cuttings and fillings will be marked on the ground, also plans and specifications, exhibited at the office from the 1st to the 10th of February, and any further information given on application.

Payments will be made every sixty days through the progress of the work, one half in cash and one half in the capital stock of the company, and as it is expected that many planters, unacquainted with such work, will be bidders, the estimate of the engineer will be shown in order that they may bid in the form of a premium or discount thereon.

The work is divided into seventy-five sections of nearly a mile each, and where a contractor bids for more than one section, a distinct bid will be required on each.

By order of the Board of Directors,
DANIEL GRIFFIN, Chief Engineer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

New Haven and Northampton Canal, and Railroad Company,

We have now before us the annual report of this company. One year has made a wonderful change in its affairs. At the period of its last annual meeting they had barely commenced grading—now the locomotives are passing and repassing to Plainville, nearly 30 miles. Where, but a few months ago, might be seen the canal boat moving lazily through the beautiful "city of elms," and into the country, at the rate of, at least, *two and a half miles an hour*, may now be seen the locomotive, with its long train of cars, darting along under the bridges, at the rate of twenty miles an hour.

This is the third canal in New England which has been superseded by a railroad—the Middlesex, the Blackstone and the Farmington. These, however, are not all the canals, in this country, which will be thus superseded.

The report does not give the details of cost—and therefore we cannot compare its cost with other roads. We shall probably be able to give them hereafter.

The following named gentlemen were elected directors and officers for the following year:

Directors—Henry Whitney, Harvey S. Hoadley, Henry Kneeland, Henry Farnam, and Joseph F. Sheffield.

Engineer and Superintendent—Henry Farnam.
Treasurer—Stephen D. Pardee.
Secretary—James S. Redfield.

South-Western, Georgia Railroad.

We complete, in this number, the report of Mr. Holcomb in relation to his survey of this route. It is very much in detail, and occupies a good deal of space, but having been furnished by him with a map showing the railroads now in use in the south, and the proposed connections and extensions of this line, we have given the report entire.

From the map in the last number may be seen the proposed extension into Alabama and Florida, by which new life and increased value to property will be given to that region.

The following extract from an article in the Macon Messenger, gives, in a few words, an idea of the estimated cost and business of the road; and urges warmly the importance of its early construction, and we hope to see it soon commenced.

"The route, via Fort Valley, Traveller's Rest, and Pondtown, to Fort Gaines, has been thoroughly examined and found to be extremely favorable for the location of a road. It approaches within about 37½ miles of Columbus, and 25 miles of Eufaula, Alabama. The average cost of grading per mile between Macon and Fort Gaines will be only $4,158. To this must be added for iron, say, $3,900 per mile, and for superstructure $1,741. The total cost of the road to Fort Gaines, a distance of 140 miles, including grading, superstructure, iron, right of way, depots, cars, fixtures, machine shops, and every thing complete, is put down at $1,772,361, or an average of $12,666 per mile. If the flange rail at 40 tons to the mile, is adopted, the total cost would be $1,563,040, or $11,178 per mile, and if a lighter iron, (say 32 tons to the mile, the same as on the Central road, should be selected, the entire cost would be $1,490,240, or $10,644 per mile. The report in question is very full and very comprehensive as the intelligent *engineer* and his able assistants have been exceedingly minute in their surveys and calculations. In addition to the above estimates, they give the probable cost of branches to Columbus and Albany.

"In regard to business and income of the road, the report is exceedingly full and satisfactory. We have not room for the reasoning, and must content ourselves with merely presenting the conclusions at which Mr. Holcomb arrived after the most elabo-

rate research. His estimates based upon the actual productions of the county, show that the road will carry of Georgia cottons 30,325,932 lbs., or 71,355 bales of 425 lbs. each. The proximity of the line to one of the richest cotton producing regions of Alabama, induces the conclusion that at least 30,000 bales will be obtained from Eufaula and places contiguous, thus giving the road in cotton alone 100,000 bales. By the experience of all southern roads, it has been found that the return freights are at least equal to those direct. The travel on this route estimated upon the most reasonable basis, is set down in the report at $97,514 00
Add total for freight 195,861 50
" U. S. mail 15,164 00

Total receipts $308,569 50
Deduct cost of maint. and working 128,742 98

Total amount of receipts $179,947 52
Or a little over 10 per cent. on the estimated cost of the entire work.

"We defy any one, who is not prejudiced, to read the report in connection with the article from the pen of Mr. Grantland, and not be convinced that the Southwestern road is one of the most promtsing enterprises in Georgia, not only for the public at large, but for the stockholders. The only difference seems to be in regard to the route to be pursued.—The line recently run was terminated at Fort Gaines. Many think that a point equi-distant between that place and Albany would be more eligible; while Mr. Grantland seems to favor a route still further south in the direction of Bainbridge. The sagacity of that gentleman in matters of this kind will certainly entitle his opinions to much consideration, and we trust that he may yet be placed in a position where his views and the force of his reasoning may be felt. We sincerely trust that, whether the Legislature act wisely in this matter or not, it may be eagerly taken hold of by such gentlemen as Mr. Grantland,—men of intelligence, energy, public spirit, and pecuniary means—men whose views are not contracted, who think and act and feel for the future as well as the present. This opening of a communication with the Gulf through Southwestern Georgia is no new idea. It appears that twenty years ago it was suggested to Governor Forsyth by Mr. Grantland and at his request embodied in his annual message to the legislature. The introduction of railroads has made it possible to accomplish with a few hundred thousand dollars what would then have cost as many millions. It is indeed gratifying to find that this important enterprise has attracted the attention of men of enlarged views in all parts of the State, and that nothing but energy and action seem requisite, on the part of those more immediately interested, to insure complete success."

Railway Charges in England.

We find in the Railway Chronicle for Sept. 25th, the following statement of the *lowest* and *highest* charges authorized by the special acts of 1846, viz:

Animals per mile:—		
Horses	2d.	7d.
Cattle	1½	4
Calves and pigs	0½	3
Sheep	0½	3
Carriages per mile	4	10
Goods per ton per mile:—		
Manure	1	3
Coals	0½	4½
Corn	1½	6
Cotton and general merchandise	4	6
Passengers per mile:—		
First class	2	3½
Second class	1½	2½
Third class	0½	1½

"By reference to the scale of maximum charges authorised in 1845, it will be seen that in some cases the charges authorised in 1846 show a greater variation between the highest and lowest rates than has hitherto occurred; and it must be evident that if the sums mentioned in the first column are sufficiently remunerative, the amounts mentioned in the second column must so much exceed the limit which the interest of the respective companies alone would dictate, so that far from these limitations being of any practical utility, they might, like the Binghampton, Lichfield and Manchester, be authorised to charge 'any sum they may think fit.' The existence of these variations may be attributed to the fact, that while some committees investigate and reduce the scale of charges proposed to be authorised by the bills referred to them, other committees allow these provisions to pass without examination; the recurrence of such variations would be pervented if parliament were to fix the maximum amount of the charges to be allowed by committees in all bills referred to them."

A View of the Railways from Maine to Georgia, in the Course of Construction--or Planned to Compete with the Erie Canal.--By Joseph E. Bloomfield.

As an old resident of the State of New York, and long a laborer to advance her prosperity, by the advocacy of railways—constructed, and conducted, on sound principles—you must have been surprised and noticed with the regret of the writer, that our governor, in his annual message, has entirely omitted the "*better improvement of the age;*" while he recommends an amendment of the constitution to accelerate the construction of lateral canals to the Erie canal, that are sure to be superseded by railways.

All notice of the *New York and Erie railroad*—now in operation to the Delaware river—and destined finally to reach the Mississippi—a work *not* second to the great Erie canal—is entirely omitted. So also the line of railways from *Albany and Troy to Lakes Ontario and Erie*, as well as the state policy that *taxes private enterprize*, and our own people, during the winter months, when the Erie canal is closed!! Although there is much in the message to commend, yet I cannot but express my surprise in your Railroad columns, that he has not drawn the attention of our legislators, to the gigantic efforts making by our neighbors to relieve the Erie canal of a large share of its increasing trade and tonnage.

In your paper, and others, I have for more than twelve years, repeatedly endeavored to show the manner in which railways have superseded canals in New England, while in Old England they have drawn to themselves nearly all *the valuable traffic* and transportation that required *certainty* and *celerity*—the handmaids to commerce and manufacture. Not valuable goods alone, have sought the railway in England. "Carrying coals to New Castle"—is an old saying, but the taking of them from the mines at New Castle, by railways, to the heart of London, in the face of open coast navigation—a reality of the present day—was little dreamed of, by the most sanguine advocate of railways a few years back. Why is it done? The answer in their publishsd reports is plain—"to avoid the delays incident to a long continuance of adverse winds—with the further delays in unloading, incident to the crowded state of the Thames river, with these vessels on demurage when accumulated by a fair wind." To effect *regularity* in the delivery of a bulky article—expensive to handle, requiringmuch valuable space at the factories and dwelling houses in London, it has been found advantageous to expend thirty millions of dollars, to connect the interests of the several corporations, to carry coal inland to London, from the principal mining disrict of New Castle.

I am pleased with your report, and your remarks on the benefit the Reading railway has been to the public. But for it, the Delaware and Hudson, the Morris, the Lehigh, the Schuylkill, and Tidewater canals could not have supplied the demand incident to the reduction in the price of transportation caused by the Reading railway, and, I trust, with profit to the company. It is true, as you say, from "the prospects ahead, the friends of the Schuylkill canal and the Reading railway ought to be content; and agree upon rates of toll, mutually advantageous, and the contest should be, who shall give the operators (the miners,) and the shippers, the greatest facilities." In this contest, however, you and I cannot shut our eyes to the fact, that the price of coal is to be regulated on the eastern sea board markets by the labor to raise, and its cost of transportation by railways—not canals. Should the above named works, however, combine to enhance the price of coal, and thus diminish the consumption, you will, I trust, soon have your *Central railway* to your bituminous coal fields; and New Jersey will have the Summerville railroad to the Lehigh region, to regulate the New York coal market. I will add, however, that there will be enough for all to do, to pay good dividends. But I have digressed. I took the pen to briefly advert to the following railway improvements in progress which our governor appears to have forgot. He would, apparently, depend on canals, that in our latitude, can only be used, on the average, from Lake Erie to the Hudson, *six and a half* months in the year—to secure a continuance of the present immense trade on them, mainly centreing in the city of New York.

Governor Young, I will do him the credit to say, is not more incredulous as to the capacity of railways to carry freight, at cheap rates, than his immediate enlightened predecessor. I recollect pleeing in the halls of our Senate in the winter of 1846 the profile and map of the Philadelphia and Reading road, stating on it, the rates of freight at which one engine had drawn a train of 155 cars with the gross load of 1197 tons from the mines to Philadelphia. So wedded, were senators to the canal policy of this state, they considered it fiction. They could not then be induced to institute an inquiry into the comparative merits of railways and canals, nor have they ever done it since. Had other councils prevailed, or your Journal been more read in high places, this state would not have committed errors that will cost her millions of dollars, (to use the language of our lamented Casey,) "for money wasted as much as if thrown into the sea—a moth on the treasury."

You must excuse me when I say, if our politicians, without regard to party, had been so wedded to the glory and the popularity of De Witt Clinton—rightfully acquired by the canal policy of his day—before railways were successfully introduced—the present governor would not have omitted to notice and to draw the attention of our legislature to the line of railways projected from *Portland* in *Maine*, to *Montreal*, with the design on the part of the Canadian Government to aid in extending the works north of Lakes Ontario and Erie, to Detroit, St. Louis, and finally to the "far west," by Mr. Whitney's railroad, which he places before the public in such a captivating form, that I am a convert to it.

The statesmen of *Massachusetts* are not satisfied with our tax of canal tolls on the line of railways built by private enterprise, parallel to the Erie canal. It is a burthen to her consumers of our provisions and bread stuffs, greater than is charged for freight and every charge from Albany to Boston—200 miles over her railroads—to wit, thirty-one cents, and at times it has been twenty-five cents per barrel for flour. These rates are fixed to compete with the river and sound coasters. At these rates she has the last season drawn to the railway upwards of 500,000 barrels of flour, *through* freight to Boston, besides that left at intermediate places. This line at these prices, and two and a half cents per mile for passengers has netted 8 per cent. on $12,000,000. Rather than longer submit to our imposition, and our state cupidity (to protect our canal

monopoly, to the injury of our own producers,) the citizens of Massachusetts, New Hampshire, and Vermont, have planned, and unaided by these states, are fast extending a railway from Boston through these states and the north part of our own state to Ogdensburg, the foot of lake navigation. This great work of about 340 miles, is destined to take a large share of the western trade to manufacturing New England. This immense tonnage is being now let down into Lake Ontario by propellers at cheap rates of transportation—by the Welland canal. This route, from the upper lakes, adjacent states and territories—to the ocean, is the cheapest beyond question, if we except our *central, level*, or *descending* line north of the Erie canal, of 565 feet descent in 300 miles, to tide water—or the still more preferable and shorter one of only 182 miles from Oswego, on Lake Ontario, to be completed this year.

Pennsylvania has in the course of completion also her "Central railway." This great work, so important to Philadelphia, is to be executed principally by private capital, aided by the city of Philadelphia, to the extent, I believe, of $1,500,000, and will, to a great extent, cure the errors and supersede her present amphibious state works.

In the present indebted state of Pennsylvania, for ill-judged canals, her liberal minded citizens cannot be too much praised, particularly as compared with ours, in their canal mania. Pennsylvania forgets this policy, and is now adopting "*the better improvement of the age.*" The course adopted by Pennsylvania, should cause our Legislature to blush at their *local*, selfish, and state monopolizing enactments; as if our whole people were created for the canals, not these works, to subserve the interests of the people.

I should not—nor did I intend to pass over the great *New York and Erie railroad.*

If half of what its friends predict is true (and I believe them), of its income, and its ability to carry freight at cheap rates—when its branches touch the Erie canal at several points, and at Buffalo, (by the Genesee Valley and the Attica railway, already constructed,) it requires no prophet to point out that the Erie canal will be relieved from any extravagant increase of its business, even when enlarged, should the New York and Erie railroad be extended, as it will, by way of Erie, in your State, Cleaveland in Ohio, Detroit and Chicago to the Mississippi.—The Erie railroad, as it is free from the unjust burthen of canal tolls, incident to the line of roads parallel to our great state monopoly in the winter—with a prohibition to carry freight during the season of canal navigation—there cannot be a question but that this railway will draw to itself a large portion of the merchandise tonnage, as the state tolls (for liberty to the forwarders to carry merchandise,) will be an ample remuneration to the stockholders in the railway. So will the early closing of the Erie canal, and the large quantities of bread-stuffs and provisions now forced on it, to get to a winter market at home and abroad give to this railway and others, from the granaries of the West, a large share of this class of transportation. This will be done to feed, not over-stock, our markets, at extravagant rates of freight as is now too often the case, by canal combinations.

Maryland, after her long delay, but diligent exertions, is sure to complete her *Baltimore and Ohio railroad.* This will be done, if other means do not offer, by the earnings of the road itself, already completed to the Cumberland iron and coal mines, the products of which, the railway will be the great carrier of, all to the contrary that may be predicted in favor of the Chesapeake and Ohio canal. Time will show the truth of this position so soon as the railway is relaid with heavy iron.

The new school statesmen of *Virginia*, have (like those of New England, interested in the Middlesex, the Blackstone and the Farmington canals—obsolete works—) at least begun to forget "the James River *canal* improvement," in which upwards of five million of dollars have been thrown away in vain attempts to extend this communication to the Ohio.—Like Pennsylvania, the citizens of Virginia are concentrating all their efforts on a central railway from Richmond to or near the Gyandotte, or Great Kanawha—with a branch by southwestern Virginia to Kentucky and Tennessee. Much can be advanced in favor of this route, and continning it to the admirable port of Norfolk, to compete with our northern railways.

South Carolina, one of the first States in the railroad field, is steadily pushing on her important work through Georgia to Nashville. Charleston will probably be the first Atlantic city that will have a continuous line of railways, to steamboat navigation on our Western rivers.

All these *ribs*—as I call them—from the main sea board spine—or *trunk railway* from Maine to Texas, are sure to be completed. How much then has our Governor erred in his late message, by treating only of the Erie canal and its branches, omitting entirely to point out our superior route, north of the Erie canal, on which to construct a level or descending railway from Buffalo to tide-water.

Locomotives for Luggage Trains.

The following article on locomotives, is taken from the proceedings of the Mechanical Engineers.

A paper "On Locomotive Engines for Luggage Trains," was presented by Mr. Beyer, and was read by the chairman. It detailed the results of a series of experiments made with the luggage engine 'Atlas,' on the Manchester and Sheffield line, and made for that company by the Messrs. Sharp. The engine in question belongs to the class called "inside cylinders," containing inside framings, and runs upon six wheels, all of which are coupled. The dimensions of the cylinders are 18 in. diameter, and 2 ft. stroke; diameter of boiler, 3 ft. 6 in., by 13 ft. 6 in. in length, and containing 175 brass tubes, of 1¾ in. outside diameter. The wheels are 4 ft. 6 in diameter, made of cast-iron, and the fire-box is of copper, 3 ft. 8 in long by 3 ft. 3¾ in. wide, inside, measuring 3 ft. 4¼ in. from the top of the fire-bars to the under side of the roof; the water spaces round the four sides are 3 in., and that of the mid-leather, running across the box, is 4 in. in width. The weight of the engine in working condition is exactly 24 tons. The cylinders are secured to each other by internal flanges, which form the bottom of the smoke-box, and are the principal cross stay between the two frames to resist buffing. The valves, which are in one chest inclined towards each other, being below the cylinders, afford direct exhaustion into the chimney. The weight of the valves is carried by the spindles, made to work through stuffing boxes in both the loose end lids, but are totally unconnected with the boiler. To carry the hind ends of the steel bars, the steam regulator is made with a second disc, provided with two small holes, about 1¼ in. area, which, being acted upon by turning the regulator handle, admits steam into the pipes and cylinders, and thus removes the pressure from the ordinary disc before it is moved, and enables the driver with moderate attention to start as gradually as he pleases. Six of these engines have been constructed by Messrs. Sharp, Brothers, but they merely vary from this in the number and diameter of the tubes; in other respects they are perfect duplicates of each other. Engines of this description are, in addition to those on the Manchester and Sheffield line, at present working on the Manchester and Birmingham and the London and Northwestern lines. The 'Atlas,' which has performed its journeys on the Manchester and Sheffield line, has travelled no less than 40,222 miles between May, 1846, and the end of October, 1847, during which time its consumption of coke had been only 36·53 lb. per mile. Another of these engines, 'No. 30,' on the Manchester and Birmingham line, was tested on the 3d of October, 1846, with a train of 101 wagons, weighing 597 tons, and accomplished the distance between Longsight and Crewe, 29 miles, at the average rate of 13·7 miles per hour. The size of the blast-pipe for running this trip was 3¼ in. diameter, or 8·4 in. The engine in question has since been transferred to the London and Northwestern line, and in June last, when the last statement was compiled, the engine ran 3,004 miles, with a consumption of coke of 0·214 lb. per ton per mile, whereas the next best engine then at work on that line consumed 0·38 lb. per ton per mile. The above description was accompanied by a series of statistical tables and a number of large drawings. Mr. Brooke rose, and proposed that the Council be instructed to request of Mr. Beyer that he will be good enough to place his paper and drawings at their disposal, in order that they may print them, and circulate part of them amongst the members. The chairman observed, in reference to the engines in question, that as far as his experience went,—and he had paid very particular attention to one of the engines that came under his observation,—he had found that in working it had exceeded by more than one-half the performances of the ordinary luggage engines at work upon that railway. The manner in which the engine had worked, and the small amount of repairs required by it, showed very plainly that the plans, construction and quality of the materials were the best that could possibly be given, for the engine had given him less trouble in repairs, and had done more work for the amount of expenditure upon it, than any engine under his superintendence performing the same kind of duty. The provision made for the expansion of the boiler, was one point of the greatest service to the engine; but the whole arrangement of valves, gearing, framing and cylinders reflected the greatest credit upon the party who designed it.—There was no weight thrown away for the fire-box and tubing surface; and he would again emphatically state, that it had done more work than any engine he had known for the same description of duty. Mr. J. E. Clift begged to ask whether there had not been an immense amount of wear upon the wheels. The chairman replied, that the wear of the tire seemed great; but when it was stated that a distance of 40,000 miles had been traversed, the wear was really very small, for the distance was equal to three years' wear. Mr. Beyer observed, that the tires had not been turned during the time it had accomplished the 40,000 miles spoken of, but they would be turned before being again put to work. And in answer to other inquiries, he replied, that he believed the tires would even have worn better had the wheels been of solid cast-iron. The chairman asked if the amount of resistance in the smoke-box had ever been experimented upon? Mr. Beyer replied that Mr. Ramsbottom and he had made many experiments, although they were not then prepared to state the exact results; but the length of the tubes caused a great resistance in the smoke-box. In this opinion the chairman concurred. Mr. Beyer also explained the diagrams of the valve motion.

Railways as an Investment of Capital.

We have more than once had occasion to express the opinion that a judicious investment of capital in railways was the safest that could be made—for the reason that, in the nature of things, from the increase of business, and the reduction of the expense of repairs and management, the net income of the railroad must increase; and for the reason also that the business of railroads is not likely to be affected to the same extent, in times of depression and embarrassment, as is most other kinds of business. Indeed it will sometimes occur that during the prostration and derangement of business generally—and especially in times of war—the travel on railroads will increase.

In confirmation of these views we find the following remarks on the subject in a late number of Herapath's Railway Journal—He says "so far as the

receipts go there is little prospect of any material diminution in the dividends." It is, says the editor in the payment of heavy rates of interest for the means to continue their works on new lines, that the dividends on lines now in use may be reduced—rather than in a falling off in the traffic. We give the article entire, that our readers may have the views of one of the ablest writers on railways in England.

We last week briefly hinted our apprehensions, that the last year's dividends at the forthcoming meetings would not generally be maintained. Our opinion is not so much from any falling off in the traffic as from the recent state of the times, and the known practice of railway companies.

Out of thirty three companies in our list in operation last year, and enjoying revenues, there are nine, of which one is a foreign line, whose receipts per mile are less than they were the corresponding week of last year.

These are Edinburg and Glasgow, Eastern Counties, Glasgow and Ayr, Great Western, North Western, Brighton, Newcastle and Carlisle, Paris and Rouen, and York and North Midland. The mileage receipts of the remainder are equal to or above those of last year.

So far, therefore, as the receipts go, there is little prospect of any material diminution in the dividends. One might, indeed, fairly calculate that they would be the same. For, though some of the lines show a considerable mileage diminution of receipts, it must be remembered, that most, if not all of them, divide upon a larger capital, and the receipts are over a greatly increased mileage, which, being constructed at a much less cost the present dividends would not be much effected.—Probably in many cases, the dividends may admit of increase. For, if the mileage be increased more in proportion than the capital is a lower per mileage receipt may give a greater dividend. Suppose, for example, a line costing £50,000 a mile pay 10 per cent. and another line costing £10,000 a mile, paying 12 per cent, be added to it, the average mileage receipts, if the lines were anything like of equal length, would be lower than those of the principal line, while the dividend would obviously be greater. This would be irrespective of expenses to receipts.

We think it necessary to premise thus much, to prevent alarms going abroad of an unfounded character. There is, we believe at present, no ground for alarm on the score of traffic. The trade of the country keeps, if we may judge from the railways, infinitely better than any one had a right to expect, considering the convulsions that we have had. That from which we think the deficiency will come is an increase in the expenses. Almost the whole of our lines in operation have more or less had works in hand, which they either imprudently engaged in without looking before them, or having been engaged in, and been unable to provide for them by calls, have been under the necessity of finding the funds by other means. One course adopted by almost all companies has been, to use the traffic receipts as they came in upon works in progress, and then making calls, or taking up loans to replace the money so used. By this practice they have saved calls and saved interest by puting off calls and loans to the last moment. It is, however, a practice that is attended with danger, and in times like those we have just passed, cannot be followed without considerable sacrifices. The proper course would have been for the companies to pull up at once, and not to have gone on without calling their shareholders together and telling them the state of the case. If they then sanctioned proceeding with the works, it would have been very well. The great error the companies have committed, has been proceeding with works under such difficulties as they must have had to contend with, without going to the shareholders for their approval or advice what to do. It is this which has involved them in difficulties they will not now be able to conceal if they would. Some of them, besides using up their traffic receipts, have been obliged to borrow money at most extravagant rates. Unable to pay their contractors in cash, they have paid them in debentures, ostensibly bearing interest at 5 per ct., but so issued by having a larger sum on them than the actual sum paid, or by allowing whatever premium was required to get them cashed, as to make the interest often at the rate of 10, 12, or more per ct. for years to come. It is asserted, we believe, on good authority, that one capitalist purchased £100,000 of one company's debentures for £70,000, they, (the debentures) having to run three years, and with interest at 5 per cent. which was at the rate of no less then 15 per ct. per annum. We saw a debenture for £2000 of the same time and interest, offered for £1750, which is above 7 per ct. per annum for three years.

It is the payment of these heavy rates that have crippled the companies in their dividends. It is, in fact, the great pressure in the money market, and not any loss of traffic, which, in honestly intended companies will carry down the dividends. Those that are fertile in schemes for adding expenses to capital may contrive still to keep up their dividend, but it must be at the expense of truth and honesty.

Let it not be understood that we condemn the using of the traffic receipts. There is no objection to it nine times out of ten. Indeed it is more generally a saving than a loss to the company; but, in such times as these, we think the directors should do nothing in the way of expenditure, without the particular sanction of the shareholders. Great expense by several companies have been incurred in finding funds for works, which a little prudence and foresight would have taught them to stop, or not to begin. It is for this we blame them, and it is through this the dividends will be diminished. From the difficulties of getting money, we shall not be surprised, if it happen with some lines that they will be obliged to suspend their dividends, or at least, to defer the payment of them to later periods. Shareholders, therefore, however much they may want the money, must not expect such prompt payment as heretofore; nor will it be wise for them to press it.

New Haven and Northampton Canal and Railroad Company.

Twelfth Annual Report.—(2d under the New Charter.)

At the date of the last annual meeting of the stockholders, the work on our railroad had been commenced, and a few miles were partially graded; but the inclemency of the winter prevented much progress before April, when operations were resumed along the whole line, and notwithstanding the delay of three weeks in August, and nearly four in October, caused by the suspension of canal navigation in Pennsylvania, from whence our iron was procured, we have the pleasure to report, that the trains commenced running to Cheshire and Southington on the last day of the year, and that the road is now in full operation to Plainville, a distance of nearly 30 miles; and this has been accomplished without interrupting the canal navigation for more than 30 days during the season, and without accident of any kind.

Although this amount of work has been so speedily completed, the road challenges comparison with any other in the country, not only in its general character, but in its superstructure and equipments; and as it is destined to become the main stem of a great extent of future roads, both in the Farmington valley to Pittsfield, and direct to Springfield, we have run it nearly straight and level instead of following the line of the canal, as was originally intended; prefering to purchase the additional right of way, which has been done and deeds taken for the entire distance, leaving not a single unsettled claim under this head.

Application was made to the General Assembly at Hartford for a continuation of our road from Collinsville to the State line in the Farmington valley, and for a branch from Cheshire to Waterbury, and again defeated; as was also an application for powers to own or charter steamboats and propellers in connection with our canal and road, on precisely the same terms as had been granted, some years since, to the "*Hartford and New Haven Railroad Company*"—thus continuing to that company for another year, the advantages of a monopoly they have so long enjoyed. It is recommended that these several applications be renewed at the next session of the General Assembly, and also for a branch to the flourishing town of New Britain.

In consequence of the great demand for money last spring, and the high rate of interest, always so unfavorable to the advancement of new enterprises, the board did not deem it prudent to enter into contracts for the continuation of the road beyond Plainville; but these causes, (which still continue to operate) have not prevented the payment of the installments of our new capital as fast as they have been required to carry on the works, and the stockholders will learn with pleasure *that we again close the year without any floating debt whatever*, and that the $60,000 five per cent. bonds issued in 1844, the interest of which is provided for by the water contract with the city, and the $12,000 six per cent. bonds issued in 1845, for which it is intended to reserve the 475 shares of stock now owned by the company, constitute the entire indebtedness of the company.

The New York road, now in rapid progress of construction, having come to the fixed determination to pass round the city rather than through it *upon the surface grade*, and as it was deemed very important to this road to form a connection with them on the same grade and in the same depot, and thus secure to ourselves and to this city and the public, the important advantages of a *central* location of all the roads, which our canal so happily affords; and finding it impossible to reconcile the two grades without great expense to both companies, negotiations were entered into in August last, which have resulted in the lease of our road to the New York company for twenty one years, at the rate of $45.000 per annum, payable semi-annually in July and January, the road to be delivered when fully completed to Plainville; and negotiations are now pending for a further lease from Grand street to the basin, for a longer period, which we trust will result in making the bed of the canal available for all the roads which may now or hereafter pass through the city, and yield to this company a further very considerable annual income.

These leases will be laid before the stockholders for examination in detail, and we look for their approval of them with entire confidence, as they will not fail to notice, that while they secure to this company immediate regular dividends on the sixty dollars per share already paid in, *and one half of the net future increase of income* during the whole term of the lease, they at the same time ensure the cooperation of the New York road in the future extensions of ours, while both roads, thus united, may control not only present connection here, but future ones with the Western road at Pittsfield & Springfield—connections which the New York company are not slow to appreciate, and will not fail to make at some future day. The passage of these two roads, and also the 'Air-line road,' when completed, directly through the centre of our city, in the bed now occupied by our canal, *and under all the bridges*, with ample grounds for the *central* depot at a moderate cost, affords facilities which few other roads and few other cities enjoy; admitting, as it will, the constant arrival and departure of trains at all hours of the day and night, without the slightest danger to our citizens; advantages which cannot be too highly valued, when we come to estimate the immense numbers which the numerous roads will hereafter concentrate at this place, to take the great *trunk road* to New York.

In availing ourselves of the bed of the canal through the city, the use of which is now superseded by our railroad, care will be taken to preserve our water power at a point a short distance from town, at an elevation of 92 feet above the surface of the ground in the Centre Green, thus preserving the means of supplying this city at some future day, with a neverfailing flow, nearly equal in quantity to what passes over the Harlem river in the celebrated Croton aqueduct. This great and neverfailing supply of pure water, which other cities are paying such immense sums to procure, may be furnished to the people of New Haven at a very small cost, and at the same time become a source of great future income to this company; estimates of the cost of iron pipes, and such other information as the subject demands, are now being procured, with a view of laying before the city authorities a plan of supplying the water to any extent which the future increase of population may require.

Installments of the new capital have been called in from time to time, as the work progressed, and the shares now stand at sixty dollars, which sum it is well ascertained will be ample, not only to complete and finish up all the works along the line to Painville, but also through the city to the connection with the New York road.

The report of the chief engineer and superintendent will shown in detail the several heads of expenditure; and the usual annual examination of our books by the commissioners appointed by Massachusetts and Connecticut, and their certificate of the same, will show the position of the canal company separate from the expenditures of the railroad.

While it is intended to keep the canal open to such persons as may feel disposed to use boats upon it, and especially that part of it above Plainville, until our road is extended to the State line, it is nevertheless recommended that application be made to the next general assembly for additional powers in using our surplus water to supply the city, and for such other purposes as it may be made available. Applications have already been made for lockage and other water powers along the line of our road, and an offer has been made for a perpetual lease of that part of our canal lying within the State of Massachusetts (from the State line to Northampton, 28 miles)—which of course could not be granted until it is decided at what point our future extension will unite with or cross the Western road; whether by Westfield to Northampton, or more directly connect with the great line of Connecticut River Valley roads, at the new city of Hadley, or be limited to a connection at Springfield alone In these numerous and valuable water powers, already available for *immediate occupanry without expense*, and in our twenty-one acres of basin and wharf property in the centre of the water front of this growing city, which basin may be made the termini of all the roads, the stockholders have a sure source of income, independent of the railroad, which it will be the duty of the directors to cherish and improve.

In relation to the future income and prospects of the company, the history of all well built and well managed railroads in New England warrants us in expecting, under the lease to the New York company, constantly *increasing regular dividends;* while to our canal and basin property and water powers, we may look forward with great confidence for very handsome contingent ones; and as provision has been made in the lease for the means of extending the road, and as the amount already called in, it is believed, will be ample to complete all the works now begun, it is not intended to call upon the stockholders for any further installments during the present year. If, however, it should be deemed important to carry our extension to the State line near Springfield without delay, and without aid from the New York road, and thus connect with the 200 miles of valley road now in operation, or in course of construction, bringing to our road and to the New York road a large share of the business of that very populous and thriving part of New England, the remaining forty dollars per share may be called in, and will be ample for that purpose, and the whole work may be completed during the present year: thus enabling the New York road, of which ours becomes a continuation, to run through to Springfield as soon as they are open to New Haven; and ours being a level straight road, may be run in shorter time to Springfield than the present road via Hartford, on the east side of the mountains.

With nearly thirty miles of the best railroad in the country, running through such a region, and connecting as it will with such extensive lines of road, and out of the way of steamboat competition, for the small sum of $720,000 ($60 per share) including all the property of the canal, (which cost nearly two millions) now made more or less valuable by this road; and in view of the future increase of business and travel, which increased facilities always create, the stockholders may rest assured they have not made a bad investment of their money.

Should these extensions not be made this year, or not be made at all by this company, a reduction of salaries and curtailment of all general expenses may be made after the delivery of the road to the New York road, under the lease, which is intended to be done on or before the 1st of July, up to which period it is proposed to continue to pay interest on the $60 per share paid, at the rate of six per cent. per annum; and after that time regular dividends of the income of the company from all sources whatever.

Respectfully submitted, by order of the board,

Jos. E. SHEFFIELD, *President.*

New Haven, January 19, 1848.

Southwestern Railroad.

Report on the Preliminary Surveys and Estimates for the Southwestern Railroad from Macon to Fort Gaines, on the Chattahoochee river, and the Gulf of Merico; with Branches to Columbus and Albany. By F. P. Holcomb, Civil Engineer.

Continued from page 54.

ALBANY BRANCH.

Of course it is expected by the friends, and of the friends of the Southwestern railroad, that a lively interest will be felt and manifested throughout Southwestern Georgia, and that all will contribute towards its construction, in proportion to the benefits to result from its completion. That it will add greatly to the profit and convenience of all, throughout the whole extent of that fertile region, there can be no question. But all, of course, cannot be benefited alike; and the amount, or degree of benefit, must depend upon the remoteness or proximity of the road.

In order to diffuse the advantages as fully

as possible, and to render tributary to the work, the largest possible extent of country, the plan embraces a branch railroad to Albany, from a point in Stewart county, already alluded to.

The citizens of Albany, by looking at the question in its true light, will discover I think, that their best interests will be promoted by the construction of such a branch, having its terminus at Albany, in preference to a position on the main line.

It will not be difficult to perceive, that the latter position would only secure to Albany a business entirely local in its character,—while by becoming the terminus of the branch, it will then be the focus of the trade and business of Baker, Decatur, Thomas, Lowndes, and parts of Irwin and Dooly counties; and would doubtless attract trade from beyond the Florida line, a distance of about sixty miles. I think it will be impossible to show, that this is an extravagant, or improper view of the matter.

An approximate estimate of the cost of this branch will be given; the country, as before stated, being highly favorable. The distance being variously estimated, at from forty to forty-five miles, from Albany to the point of intersection on the main line, about seven miles south of Richland, or Box Ankle, the estimate will be based upon a distance of forty-two and a half miles. This would make the whole distance about one hundred and fifty-five miles to Macon, and one hundred and ten to Columbus—should business or pleasure ever lead the citizens of Albany, or this portion of Georgia, in that direction.

RIGHT OF WAY.

I am happy to state, that during the progress of the survey, in nearly all cases, we have been greeted with a cordial welcome; and the liveliest interest has been manifested in the success of the enterprise. While alluding to this subject, I will take occasion to compare the state of feeling immediately along the route pursued by the survey, to that which experience on other works of the kind in the State, has been brought under my notice.

The contrast is so strikingly in favor of the route in question, that in negotiating for the Right of Way, the most favorable result is looked for; or should any individuals, contrary to what is now anticipated, be disposed to exact unreasonable damages, and appeal to the courts, the state of public feeling, unlike what has been, unfortunately, the experience in too many instances on other works, would without doubt, protect the company against exorbitant demands.

The Right of Way is, however, estimated at the average price on the Central railroad, in consequence of the lands being generally of greater value.

CHARACTER OF ROAD.

Before proceeding to the estimates, it will be proper and necessary, to allude to the minimum radius of curvature, the dimensions of the cuts and fills, the form of the wooden superstructure, and the weight and dimensions of the rail, on which the estimates are based. These different subjects will be referred to under their respective heads.

MAXIMUM GRADE.

In estimating the cost of preparing the road bed, the question of the maximum rate of inclination, has a very important bearing—as the indulations of the surface of the ground traversed by the line, must be reduced to this standard; with reference to this' are necessarily regulated by size and capacity of the locomotives employed, and consequently the weight and strength of the rail necessary to sustain them. Of course the capacity of the road for business is limited or extended, as this standard is lessened or increased. Hitherto, a very low limit has been established and adhered to, on the southern roads; and hence, probably arises the large amount of business borne by these roads, though less expensively, and consequently, perhaps somewhat less substantially built.

It is too much the case, however, I cannot forbear to remark, in instituting comparisons between railroads of the north and south, to judge of their capacity and durability, by the relative cost of each; when this additional cost is frequently, and indeed generally, the result of expensive cuttings (frequently of rock) and embankments, and costly viaducts and tunnels—which, though adding to the cost, diminish their value in nearly the same ratio, by the outlay which is necessary to maintain those expensive works. The average cost of grading the northern railroads, is not less than fifteen thousand dollars per mile, against, say five thousand for the grading of the southern roads. Here is, then, ten thousand dollars per mile expended on the northern works, which gives them no additional value or advantage, the contrary being the case.

With this large expenditure for grading, grades of from fifty to eighty-three feet per mile, are necessarily submitted to. Thus far, then, the cost is no criterion of the capability or permanence of the railroads of the north, as compared with those of the south—as the facts of having cuts five or fifty feet in depth, a tunnel or a surface graded by nature, have no bearing in settling the comparative value of railroads—certainly not in favor of those at the north.

The difference between a good work of this kind, or a bad or indifferent one, consists of light grades and easy curves, as compared with heavy and sharp curves—and a substantial and durable superstructure, and heavy and perfect rail, as compared with their opposites. In this latter respect, the weight of the rails, some superiority must be and is willingly awarded to the northern roads. But as regards the wood work of the superstructure, the same deterioration is applicable to both. But I need not say how much the south has the advantage here, from the abundance and cheapness of this material—for which, of a proper kind, the north is, to a considerable extent, dependent on this region. On the score of curvature, the southern roads have the advantages in as great, or greater ratio, both as regards the number and radii.

There is, then, no superiority in these respects; and the difference between northern and southern railroads, resolves itself into a slight superiority in the weight of the rail. But in connection with this conceded fact, it should be borne in mind, after all, that this superiority is not greater than the difference in the ruling grades there and here, and that the lighter engines required by the ruling grades here, to drag trains of the same weight, are not more destructive to the southern roads, than the heavy engines (reaching as high as twenty-eight tons) are to the rail roads of the north, equipped with the heavier rail alluded to—but which is by no means universal. And I hazard nothing in saying, that a comparison between the speed, the freighting business done, and the cost of maintainance, will show that this boasted superiority does not exist in fact; that the difference in cost, is but little more than the amount sunk in contending with the obstacle that nature has interposed—without adding to their capacity or permanence; while the south has been singularly favored in this respect.

It will be seen, therefore, that the remark sometimes heard at the north "I have no confidence in your cheap railroads"—rests upon no real foundation; and it is by a remark like this, falling from a person of some eminence in connection with the railroad system, that I have been led into these observations. That some, perhaps many, of the northern railroads have paid, thus far, better dividends, is perhaps true; which is accounted for at once, by the fact of the comparative sparseness of southern population.

This digression, which I fear will be considered unwarranted, will make it necessary for me to close my remarks under this head in a few words. As before stated, the limit to which the grades have been carried at the south, is thirty-seven feet—one of the most important railroads of this state (the Central) not exceeding thirty. But it was my object to show, in the remarks on this subject, that this limit might, without hazard, be exceeded—still keeping within a low limit; and I would here propose forty-five feet as that limit—though the maximum on which the estimates are predicated, is foriy feet.

This, in the cost of grading, would effect a saving of probably twenty per cent. And as it is proposed to make a superior track in all respects, the rail which is contemplated will render this, it is believed, in no degree objectionable. I shall close this part of my remarks by submitting, in another place, a table of gradients, or inclinations, on the Western railroad of Massachusetts, and a table of the weight, etc., together with the speed and capacity, on different grades, of the Messrs. Baldwin & Whitney's engines—which will apply, probably, nearly equally well to the engines turned out at other establishments.

CURVES.

I shall dismiss this topic with but one remark—that in no case will a curve of under two thousand feet radius be necessary, and generally much above this limit. The cost of the work would not be materially lessened, by the adoption of a lower standard—

while the usefulness of the road might be considerably impared. The abrasion which takes place between the outer rail on sharp curves, and the wheels, leads to the rapid deterioration, and final destruction of both, independent of the resistance which is the necessary consequence.

Curves of eight hundred feet radius, are submitted to, on some of the northern railroads. On the Western railroad, the minimum radius is eight hundred and eighty-two feet.

DIMENSIONS OF THE CUTTINGS AND FILLINGS.

The estimates are predicated on a width for the cuts, at grade, of sixteen feet, and for the fills, of fourteen feet; with, in the former case, slopes of nine inches horizontal, to twelve vertical, and in the latter, fifteen inches horizontal, to twelve vertical.

In regard to the widths of the cuttings and fillings, they are, perhaps, somewhat less than are common, especially the former; but I am satisfied of their being found ample. In the cuts all that is necessary, is sufficient room for thorough drainage; and for this purpose, it is believed to be better, that the inner slope of the ditches or drains should commence immediately at the end of the cross-ties, in order that the water that accumulates around them in wet seasons—causing in some instances, what is called *churning*—may run off with freedom.

A width of sixteen feet affords sufficient space for the drains under this arrangement, especially in the tenacious clay soil of this region, rendering it practicable to cut the outer slopes of the drains perpendicular.—This tenacity of soil, is our guide and safeguard in adopting the slopes which have been proposed above.

For the widths of the fills twelve feet would be ample, but for the deterioration and washing of the embankments, which is the result of frost, rain, etc., but which, in any event could only lead to the necessity of occasional renewals of earth, which would not unfrequently be afforded by the earth washing down into the drains, from the slopes of the cuts, and requiring to be removed. It is believed that with the character of soil described above, the wash would be rather increased than diminished, by increasing the horizontal dimensions of the slopes.

SUPERSTRUCTURE.

The superstructure admits of various forms and modifications, without greatly affecting its cost. Three plans have been principally resorted to on the works of this State. The first, with notched cross-ties, is too common in different parts of the country, to require any particular reference to it. This form however, has not been extensively adopted here.

The second consists of cross-ties of about eight by eight inches, and eight feet long, laid four feet apart, receiving upon their upper surface, a stringer of eight by eight inches, treenailed to the ties by a single treenail at each intersection. No difficulty has been experienced with this form of superstructure, by a failure of the treenails or spreading of the track. It is becoming general with each form of superstructure in use, to fill the track with earth, nearly level with the top of the stringers, from which a very considerable advantage is derived. The decay it is believed, if not lessened, is not increased; and the track is more firmly held in adjustment. In the event of running off the track, the injury to the machinery and cars, and danger to persons, is much less.—On this latter point, I will take occasion to remark—that while the railroad system has been in operation in the State of Georgia, since about 1836, not a single accident has occured, attended with the loss of life or limb, to a passenger; and there has been for some time complete and in use in this State, six hundred miles of railroad.

The plan of filling the track with earth, has been copied from the Central railroad, where it was first adopted to the extent alluded to.

The third form of superstructure, is that in use, exclusively on the Central railroad, where its merits have been fully tested and established. This consists of cross-ties, six inches by twelve, and eight feet long, laid flat-wise, eight feet asunder. On these are laid stringers, also flat-wise, six inches by twelve, fastened as in the other case, with a single treenail at each intersection. On the centre of these stringers is laid the rail: and about one half of the distance, or one hundred miles, being plate rail, it is supported on a ribbon, or small scantling, to afford room for the flanges of the wheels.

Each of these forms of superstructure has been occasionally underlaid with a mud sill.

It will be seen that the latter depends considerably upon the broad surface of the stringers for the bearing, and not as in the other forms, wholly upon the cross-ties. This plan of superstructure, where timber is abundant and cheap, combines many advantages; and has stood the test of ten years experience, without offering, I believe, any reason to warrant, in the opinion of the chief engineer, the slightest change in its form.

The estimates are based upon this form of superstructure—though any other form would not materially effect the cost, as before observed.

FORM AND WEIGHT OF RAIL.

The form and weight of rail is a matter of the first importance. Science and ingenuity have for a long period taxed themselves on these points, but the question of the best form is still far from being settled.

The abundance, cheapness and excellence of the timber along the line, will make it advisable, without doubt, to lay the rail, whatever form is adopted, upon a continuous bearing or stringer—as has been the almost uniform practice on the roads of this State, and of the soulh.

By this plan the same strength and stability are obtained, without approaching the limit of weight to which the rail has gradually attained in England, and which it is now approaching on some of the railroads in this country.

Four kinds of rail, principally, are in use upon the works of the south, the plate, flange, bridge or ⊓ and ⌊ rail. I might also include the L rail, in use upon the Charleston aud Hamburg railroad.

The plate rail, where it has been adopted in this State, has been generally of much larger dimensions than elsewhere.

This is the solution of the circumstance of the large amount of tonnage that is annually borne over the roads equipped in this manner here, and of the satisfactory speed that is maintained on them, by the passenger trains—with the freedom from accident, and I might add irregularity, before alluded to.—The plate rail in use on the lower half of the Central railroad has been in use, much of it, for ten years, and is still nearly as perfect as the first day it was laid down, as I am informed; the principal objection to it, being some additional wear of the machinery and cars.

The next form is the flange rail. In this form of rail, the spike holes, instead of perforating the centre of the bar, as is the case with the plate rail, are through what is called the *flange.* on the outer edge of the bar; this flange being sufficiently thin to admit of the spike heads being driven below the surface of the rail. This form has no tendency, like the lighter patterns of plate rail, to break at the spike holes, or to form *snake heads.* It will be seen that this form of rail possesses very superior advantages over the form just alluded to, of the same weight.

The bridge rail, is a third, and much approved form for continuous bearings. This rail is somewhat in the form of an inverted ⊓, and hence the name by which it is sometimes known. One important advantage to which this form of rail may lay claim, is the very effective manner in which the joinings, or splicings, may be effected; rendering, by a very simple arrangement of parts, and displacement of very unlikely occurrence. This consists of a chair, so shaped as to grasp the lower webs of the rail, by jaws or lips, turning over from either side of the chair, and a tongue projecting up from the middle. The lips prevent any motion vertically, that is not common to both rails, at the same time that they assist in preserving the rail in its place, horizontally—while the tongue which projects up into the groove, or hollow, effectually accomplishes the latter object. This was first suggested and put in p actice, by the chief engineer of the Central railroad, L. O. Reynolds, Esq.

When the importance of a perfect joining of the ends of the rails is considered, as from imperfections here, more than from all other causes, it is believed, result accidents to the trains, by leaving the track, the superiority of that form of rail affording the most perfect joining or union of the ends, will be discovered. This, however, is but one among the many merits that may be claimed for the bridge rail for continuous bearings.

To the ⌊ rail for detached bearings, is now generally awarded the preference. But for a rail of the size which will be proposed for this work, laid upon stringers, experience shows, that too large a portion of the materi-

al is expended in the lower web, to obtain the necessary base to afford the rail stability, and preserve it from canting. The bridge rail affords by its form sufficient base, with a smaller exbenditure of material.

It has not been proposed, in the remarks under this head, to more than glance at the subject of the merits of different plans of rails —were it in my power, which is by no means the case, to throw light upon this intricate and weighty subject, as connected with rail road economy.

With the continuous bearing, as before remarked, it will be unnecessary to more than approximate to the weight of rail which has obtained in some other parts of the country, under different circumstances—still keeping in view, in their fullest extent, what should be the aim of the Southwestern railroad, speed, certainty and safety of transit. The estimates are therefore based upon a bridge rail, of sixty tons to the mile, as best, and fully calculated to satisfy all the conditions.

ESTIMATES OF COST.

In submitting the estimates of cost, it is thought unnecessary to go much into detail. The estimates have, therefore, been prepared in full, and are open to such persons as may desire to inspect them.

I would remark, generally, that the estimates are believed in all cases to be full and ample; and of the two errors, the aim has been to make them too high, rather than too low. The prices actually paid in the State of Georgia, for the last two or three years, for work of a similar kind, have been fully come up to, and in some cases exceeded. Should the estimates for any part of the work, from causes connected with the price of labor and provisions, prove less than it should finally be contracted at—but it may reasonably be supposed that the contrary will be the case—we have a considerable margin to cover it, in the excess of the items of excavation and embankment, over what it is believed will be the result by a located line, especially if a maximum grade of forty-five feet to the mile, should be adopted; and on the superstructure in the diminution of distance, from the same cause.

The present, however, is believed to be in all respects, a highly propitious time to enter upon the prosecution of this great enterprise —as from the low price commanded by the staple product of agriculture, an additional avidity may be reasonably anticipated, to engage in works of this kind.

It is thought advisable, to present the gross result of the several items that go to make up the cost of grading, in sections of five miles, which will exhibit the relative, and actual cost, of the different parts of the line, for this item.

APPROXIMATE ESTIMATE OF GRADING.

From Macon to northern line of Randolph county	$497,713 69
And from northern line of Randolph co. to Fort Gaines	84,409 21
Total cost of grading from Macon to Fort Gaines	582,122 96
Average cost per mile of grading from Macon to Fort Gaines	4,158 02

ABSTRACT ESTIMATE OF ONE MILE OF SUPERSTRUCTURE.

60 tons of iron rails, a $65	$3,900 00
Timber and other materials, laying superstructure, and filling track	1,741 92
Total	5,641 92

COST OF ROAD.

Grading, masonry, and bridging	$582,122 90
Clearing and grubbing	23,333 33
Right of way	26,639 20
100 road and farm crossings, a $12	1,200 00
Grading and superstructure for 13 turn-outs, a $1000	13,000 00
13 ware-houses, cisterns, pumps, and wells, a 600	7,800 00
Depot at Macon, with ware-house, passenger house, shop, side tracks, turn-tables, etc.	20,000 00
Depot at Fort Gaines, with ware-house, etc., etc	10,000 00
140 miles of superstructure, a $5,641 92,	789,868 80
Engineering and contingencies	75,000 00
Total	$1,548,964 23
Average cost of road per mile	11,064 03

COST OF EQUIPMENT.

15 locomotive engines, a $7,500	$112,500 00
4 passenger cars, of superior make, delivered in Macon, a $2,250	9,000 00
4 baggage cars, a $700	2,800 00
150 freight cars, a $600	90,000 00
Tools, fixtures, and machinery for shops,	10,000 00
Total cost of equipment	$224,300 00
Total cost of road and equipment	1,773,264 23
Average per mile	12,666 17
Adopting the flange rail of 40 tons per mile, the cost of the road would be	$1,339,740 23
Equipment	224,300 00
Total cost of road and equipment	1,563,040 23
Average per mile	11,178 85
Adopting 32 tons to the mile, (the weight of the Central railroad plate rail,) the cost of road would then be	$1,265,940 23
Equipment	224,300 00
Total cost of road and equipment	1,490,240 23
Average per mile	10,644 57

APPROXIMATE ESTIMATE OF COLUMBUS BRANCH.

37½ miles of grading, at average of main line $4,1[illegible]8 02	$155,925 75
Clearing and grubbing	6,949 99
Right of way	7,135 50
30 road and farm crossings, a $12	360 00
Grading, superstructure, etc., for three turn-outs, a $1000	3,000 00
3 ware-houses, cisterns, pumps, etc., a $600	1,800 00
Depot at Columbus, with ware-house, passenger house, shop, side tracks, etc.	15,000 00
37½ miles of superstructure, with flange rail of 40 tons per mile, a $4,114 67	154,300 12
Engineering and contingencies	25,000 00
Total	$368,771 36

APPROXIMATE ESTIMATE OF BRANCH TO ALBANY.

42½ miles of grading, a $2000	$85,000 00
Clearing and grubbing	7,168 73
Right of way	8,195 69
30 road and farm crossings, a $12	360 00
Grading, superstructure, etc., for three turn-outs, a $1000	3,000 00
3 ware-houses, pumps, cisterns, etc., a $600	1,800 00
Depot at Albany, with ware-house, passenger house, shop, side tracks, etc.	10,000 00
42½ miles of superstructure, with flange rail of 40 tons per mile, a $4,114 67	174,873 47
Engineering and contingencies	25,000 00
Total	$313,397 80

COST OF MAINTENANCE AND WORKING.

The cost per annum of maintaining the road, as derived principally from the working of the railroads of this state, may for the wood work, be estimated as equal to a renewal once in seven years, or about fifteen per cent.; for the iron as equal to a renewal once in twenty years, or five per cent., but which, in this case, in consequence of the superior character of rail proposed, will be estimated at three per cent.; and the deterioration or washing of the earth work, at one per cent.

These items will be as follows:

15 per cent. on cost of wood work	$28,898 22
3 " " iron	18,233 93
1 " " earth work	5,382 15
Total	52,514 30
Average per mile	375 10

The cost of working the road, will, of course, depend very much on the amount of business done. I shall take the experience on the Central railroad, as the guide in this case—as facts will be preferred to theories.

On that work, the ratio of the cost of working to that of maintenance for 1845, was as one hundred to seventy-three; and for 1846, as one hundred to sixty-nine—showing of course an increase as the business of the road becomes extended. This gives us, taking the latter year, for the cost of working the South-Western railroad—one hundred and forty miles—the sum of, $76,107 68
To which, add cost of maint., 52,514 30

Total for maint. and working, 128,621 98

BUSINESS PROSPECTS.

It is well known that railroads possess a creative power, or in other words, a power to give value to numberless articles, which, from their weight, bulk, and distance from market, possessed little or none before. This is strikingly instanced, by the value that has been imparted to various products along the existing lines of improvement, which a few years ago were not thought of as entering into the elements of commerce, from these, then remote regions. To specify these articles would be a lengthy, and probably unnecessary task; but they go far in making up the business results of the works alluded to.

Laying this peculiar characteristic or property of railroads aside, however, and looking to the business resources as they at present exist along the proposed line of improvements, we shall find mainly but one article, the great staple of the country, for the production of which the region traversed is unsurpassed, seeking an outlet by the proposed channel; or at all events, this commodity, cotton, will be relied upon, as constituting alone the freighting business, seeking the sea-board.

It will be proper to indicate the region or belt of country from which this business is to flow. I have therefore specified the counties, or parts, regarded as tributary to the proposed work, with reference to transportation—without, however, embracing by any means all that would be dependent upon it, for purposes of travel, and intercommunication.

Should it be thought that any part of the country designated as contributing to the business of the road, is too remote for that purpose—there are other sections that have not

been embraced, that would fully make up the deficiency. In this light we may regard parts of Crawford, Talbot, etc.

The crop of each of the counties of Georgia, relied upon, as swelling the business of the road, as derived from the census of 1840 is submitted opposite the name of the county, as some guide, though a doubtful one, it is true, to the crop of the present period.

Counties.	*Crop in lbs.*
Houston, (half,)	3,179,651
Macon	1,379,600
Dooly	2,576,795
Marion	3,258,232
Sumpter	980,000
Stewart	4,981,937
Muscogee, (half,)	593,495
Lee	1,067,140
Baker	815,473
Randolph	327,067
Early	1,057,898
	20,217,288

The increase of population in these counties, by the best data in my possession, a comparison of the votes of 1841 and 1847, is about thirty three and a third per cent. But it is believed perfectly legitimate to estimate the increase of product at fifty per cent.—when it is remembered that extensive plantations have been established there since that date, which, owing to a want of salubrity of climate, incident to a new country, (but now fast wearing away,) are not represented by the votes of the proprietors.

This ratio of increase gives as the amount of present production, 30,325,932 lbs., or 71,355 bales. This, it is believed, is below the mark; as the amount of cotton shipped at Appalachicola, is 150,000 bales—which amount it is difficult to account for, without supposing a larger product from this region, but a part of which finds its way to the gulf, than I have assigned to it.

Of the above amount, 71,355 bales, in order to make it obviously and unquestionably the interest of the planter and merchant to patronize the road at all times, and stages of the rivers, and under all circumstances, it may be necessary to carry 11,221 bales, at fifty cents per bale—say from the neighborhood of Fort Valley; 13 963 bales, at seventy-five cents—say from Flint river; and for all westward, 46,171 bales, (exclusive of Alabama cotton,) we will say at one dollar per bale.

These items will stand thus:

11,221 bales at 50 cents	$5,610 50
13,963 " 75 "	10,472 25
46,171 " $1 "	46,171 00
Total	$62,253 75

If to this we add, as the amount of cotton Alabama would furnish to the road, 30,000 bales, which is believed to be entirely within bounds—as at one point alone, Eufaula, the receipts are to this extent—we have,

30,000 bales at $1	$30,000 00
Add previous amount	62,253 75
Total of cotton, or down freight,	92,253 75

It seems to be a rule pretty well established by experience, that the up, or return freights, are equal to the down. By reference to the reports of the chief engineers of the Central and Georgia roads, for the year 1846, I find the average ratio of the up freights to the down, as ninety-four to one hundred—and I presume the reports for the present year, on both those works, will show an excess of up freights. This sustains so well the first position, that I shall regard the items of up and down freights as equal.

Under the head of business prospects, I place the freighting business first in order, as it is first in importance, on the railroads of the south; as no great success has been arrived at here, without this important element of prosperity—notwithstanding the impression at the north, already alluded to, of the want of adaptation of the southern roads to this purpose.

I shall now consider the subject of travel, beginning with local travel. By comparing the amount of local travel on the Central railroad, for the year 1846, with the population of the counties through which that road passes, and which are tributary to it,—and instituting the same proportion between the population of the counties traversed by, and tributary to the South-Western railroad, we have 19,562 way passengers. The average amount paid by each will be estimated at two dollars; or fifty cents less than the average paid by local travellers on that road.

Under the head of through travel, I shall consider such passengers as travel the whole length of the road between Macon and the Chattahoochee, or between Macon and the nearest point of the road to Columbus.

In regard to the former, it is difficult to form any estimate which can pretend to much accuracy. These passengers would consist of citizens of Georgia, Alabama, and Florida, who would reach this point, by private and public conveyances—during the season of navigation, a large number probably by the river. If it is borne in mind that this would be by far the best, and in fact, only outlet deserving that name, in the direction of the Atlantic, for the citizens of South-eastern Alabama, and West and Middle Florida, I shall not be thought to overstep the mark, in estimating from these sources ten passengers a day, each way, and it will be a matter of surprise, if it does not very much exceed that number.

In forming an estimate of the amount of travel between Macon and the nearest point to Columbus, or the point where the South Eastern railroad will intersect, when constructed, I shall claim, independent of the travel between the two cities, a share of the long traved, or between New York and New Orleans—even in the absence of the South-Eastern railroad.

To show on what this claim is based, I submit the following comparison of distances, etc., from Auburn, on the Montgomery railroad, to the Atlantic—at Savannah and Charleston.

TO CHARLESTON, VIA. ATLANTA, ETC.

	Miles.	Fare.	Hours.
Auburn to Griffin	97	$11 00	Time, 24 Stage
Griffin to Atlanta	43	1 50	" 3 r. r.
Atlanta to Augusta	171	7 00	" 11¼ "
Augusta to Charleston	136	6 75	" 7¼ "
Totals	447	26 25	46

TO SAVANNAH, VIA. SOUTH-WESTERN RAILROAD AND MACON.

	Miles.	Fare.	Hours.
Auburn to S. W. r. r.	73	$7 30	Time, 17 Stage.
By S. W. r. r. to Macon,	75	3 00	" 4 r. r.
Macon to Savannah	190	7 00	" 11¼ "
Totals	338	17 30	32¼

This, it will be perceived, shows a difference of one hundred and nine miles in distance, eight dollars and ninety-five cents in cost, thirteen hours and a quarter in time, and five hours and a half less staging, in favor of the route, via the South-Western railroad and Macon, to Savannah. I think this must be regarded as irrefragable proof of the capabilities of this route to participate, at least to the extent of one half, in the thro' travel, especially when considered in connection with the arrangement which has recently been perfected, to place a line of first class sea steamers on the route between Savannah and New York; affording to the traveller every possible facility for the prosecution of his journey, which he could enjoy in Charleston, both as regards the expenditure of time and money.

I shall therefore estimate, to keep within moderate limits, ten passengers a day from this source—five each way. I shall also estimate an equal number, for what might be called the local travel, between Macon and Columbus.

Combining all these items of travel, we have,

7,300 passengers from Macon to the point nearest Columbus, at $3	$21,900 00
7,300 passengers from Macon to Fort Gaines, at $5	36,500 00
19,572 way passengers, at $2	39,144 00
Total for travel	97,544 00
Add total for freighting	195,861 50
Add for United States mail service	15,164 00
Total receipts	308,569 50
Deduct maintenance and working	128,621 98
Net annual receipts	179,947 52

This is a trifle over ten per cent. on the cost, $1,773,264 23.

It will have been seen that these estimates of business are confined entirely to existing facts, with reference to both travel and production. Were we to indulge in a prospective view, the remarkable fertility of the country traversed by the line of the South-Western railroad, already attracting large accessions of population, but which the proposed work would do much to stimulate and hasten, we should find it full of encouragement, since we already discover in its present population and products, every warrant for the undertaking.

But there is another view, even more full of promise than the former. I now allude to the completion of the work to the Gulf of Mexico. The results which would follow, could not fail, so far as the interests of the South-Western railroad were concerned, to be stupendous.

But I shall attempt no estimate of the accession of business and travel which would follow this consummation; since it might have more the appearance of wild conjecture, than of sober reality. To confine ourselves to any thing like existing facts, however, in

calculating the number of passengers which would take this route, when the Gulf at Pensacola or St. Andrews, should be put in connection with the Atlantic at Savannah, by a line of railroad, would be the extreme of error. It is supposed that upwards of one hundred passengers daily leave New Orleans for the north, by the river. How small a number, as compared with this, pass at this time through Alabama and Georgia, need not be told. That the South-Western railroad, when complete, would change the direction of a very considerable portion of this travel—that destined for East Tennessee, and a large region of country in that direction, as well as for the north—the facts I shall present will place beyond doubt.

With reference to the travel of Eastern Tennessee, I shall only remark, that the whole distance from Nashville to New Orleans, would be eight hundred and sixty-three miles; against twelve hundred and ninety eight, by the Cumberland, Ohio, and Mississippi rivers, and the time, two days and a half, against six days and a half. Some recent demonstrations in Tennessee, make it evident, that the day is not remote when the Western and Atlantic railroad of this state, will form a junction at the Tennessee river, with a railroad penetrating to Nashville. The distances are as follows:

	Miles.	
Nashville to Tennessee river	142	Railroad.
Tennessee river to Atlanta	130	"
Atlanta to Macon	101	"
Macon to Pensacola	300	"
Pensacola to New Orleans	190	Steamer.
Total	863	

To show that this route could not fail to divert a large travel from the Mississippi river, and at the same time to prove its superiority over a route commencing at either Pensacola or Mobile—for it makes but little difference which, as to the time and distance to New Orleans, and terminating at Charleston, I submit as follows:

NEW ORLEANS TO CHARLESTON, VIA. MONTG'Y, ETC.

	Miles.	Fare.	Hours.	
N. O. to Pensacola	190	$7 00	Time 16	Steam.
Pensacola to Montg'y	160	6 40	" 9	Railr'd
Montg'y to W. Point	95	4 75	" 6	"
W. Point to Atlanta	90	3 60	" 5	"
Atlanta to Augusta	171	7 00	" 11¼	"
Augusta to Charleston	136	6 75	" 7¼	"
Totals	842	35 50	55	

NEW ORLEANS TO SAVANNAH, VIA SOUTH-WESTERN RAILROAD AND MACON.

	Miles.	Fare.	Hours.	
N. O. to Pensacola	190	$7 00	Time 16	Steam.
Pensacola to Macon	300	12 00	" 16¼	R. R.
Macon to Savannah	190	7 00	" 11¼	"
Totals	680	26 00	44	

Showing in favor of the route, via. South-Western railroad and Macon, to Savannah—one hundred and sixty-two miles in distance, nine dollars and fifty cents in cost, and eleven hours in time.

It will be seen that these comparisons are based, not only on the completion of the South-Western railroad to the gulf, but also on the possible contingency of the completion of the remaining links in the other chain—as from Atlanta to the Montgomery railroad, and from that road to either Mobile or Pensacola.

Adding to the above, eight hundred and twenty miles for the distance from Savannah to New York, twenty-five dollars fare, and sixty hours run, we have fifteen hundred miles, fifty-one dollars, and one hundred and four hours, as the distance, cost, and time, via the South Western railroad, from New Orleans to New York; or but one half the time consumed by the present route, viz, eight days. The fare and time would readily admit of further reduction.

The above must show the preceding grounds—that not only a large amount of New Orleans and New York travel would take this direction, but that it would of necessity pass over the South-Western railroad—to be entirely tenable.

Bt in looking at the through travel, New Orleans should not alone command attention. The moment the gulf is reached, a world, if I may so speak, is opened out to view. From New Orleans to the Isthmus of Tehuantepec and Yucatan, the coast of the gulf describes a circle, of which Pensacola might be considered the centre, and which, as the only naval station in the south, is itself a place of much importance. The extent to which the government would find it convenient to avail itself of the work, could not fail to contribute largely to its income. In view of the advantages that would accrue to the government, it is confidently believed, by many persons capable of forming an opinion, that it will be found ready to contribute, by a donation of lands, to the accomplishment of the enterprise.

I have already remarked, that a line of steamers is about to be established between Savannah and New York, arrangements for which have been perfected. It will be proper to mention in this connection, that the run from Savannah to New York can be made, although the distance is somewhat greater, in nearly the same time as from Charleston. This arises from the superiority of the harbor of Savannah, the bar at the entrance of which, will admit vessels of the largest class at all stages of the tide; while it not unfrequently happens, that vessels are compelled to wait, and select a favorable moment to get to sea from the harbor of Charleston, or to effect an entrance.

On this subject, I beg leave to call attention to certain extracts from the "Savannah Georgian" and "Republican" newspapers, which will be found in a supplement to this report. I would also call attention to an article extracted from the "Savannah Georgian," signed "A Friend to the South-Western Railroad,"—which, it may not be improper to say, was contributed by R. R. Cuyler, Esq., the able president of the Central railroad and banking company. Other papers of interest are likewise presented in the supplement, together with the tables already alluded to, and some to which no reference has been made, but to which attention is directed.

In conclusion, permit me, sir, to congratulate you on the prospect, judging from the zeal manifested, of the vigorous prosecution and early completion of the South-Western railroad.

Yours, very respectfully,
F. P. HOLCOMB, *Civil Engineer.*

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J
25,000 to 30,000 made weekly. 35

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.
SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

July 31—1y ROBERT GRACIE.
New York.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*,
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, near Third, below Walnut, Philadelphia.

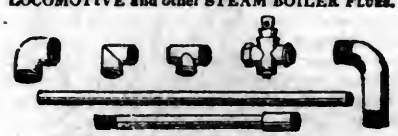
1y10

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2300 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia
1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

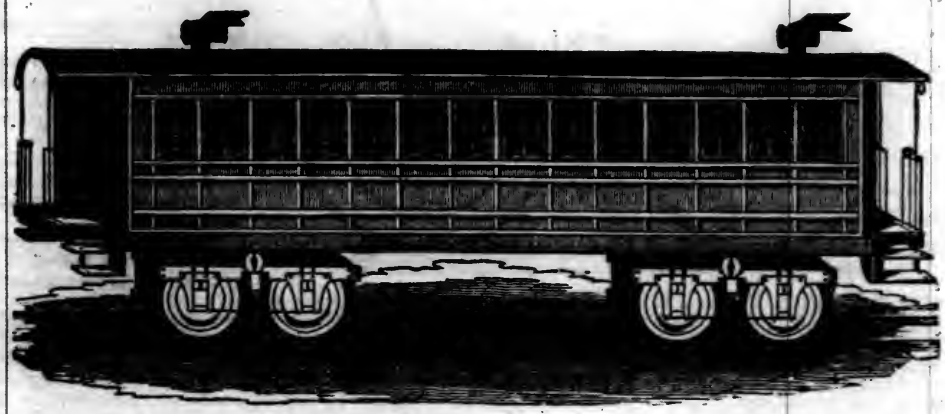
For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*f*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

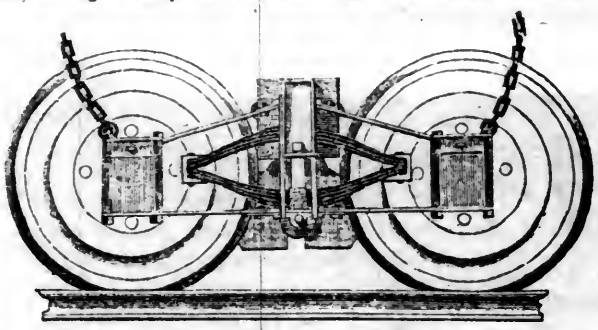
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only*. Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
1tf Philadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
1y48 77 Pine St., New York.

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car. For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3¼	8	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10½
15	2¾	5	2	6¼	9	4	13½	1-2	7½
16	2¾	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
ja45 N. E. cor. 12th and Market sts., Philad., Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

RAILROAD SCALES.---THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

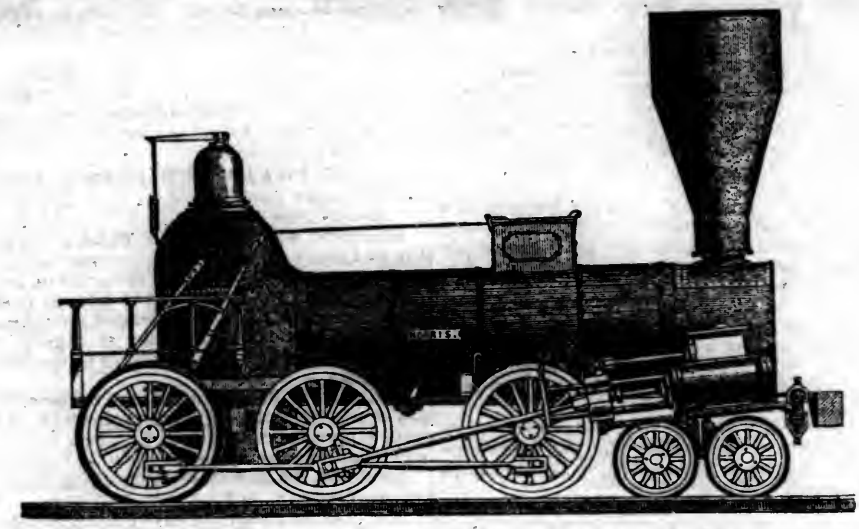
PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





MANUFACTURE to order Locomotive Steam Engines of every plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS & BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

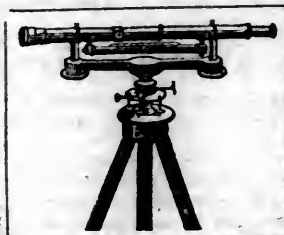
Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

CONNECTION BETWEEN THE BOSTON and Lowell and the Boston and Maine Railroads. On and after April 1st, 1847, passenger trains between these two roads, will run as follows, viz:

Leaving Lowell at 7, 11 1-4 a.m., and 2 1-2, 4 1-2, and 6 1-2 p.m., to connect at the junction in Wilmington with the eastward trains—at 7 a.m. and 2 1-2 p.m. with those to Portland; at 4 1-2 p.m. to Great Falls only, with a detention of 45 minutes at the junction, and at 11 1-4 a.m. and 6 1-2 p.m. to Haverhill only. Leaving the junction in Wilmington, for Lowell, at about 7 1-4 a.m. on arrival of the morning train from Haverhill; at about 9 a.m., on arrival of the morning trains from Great Falls. At about 11 3-4 a.m., on arrival of the morning train from Portland. At about 5 p.m. on arrival of the afternoon trains from Haverhill. At about 7 1-4 p. m. on arrival of the afternoon train from Portland.

WALDO HIGGINSON, Agent

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

WINTER ARRANGEMENT, Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6¼ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at abont 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
15tf DAVID S. IVES, Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5¼ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon			$1 00
"	"	" Xenia	1 50
"	"	" Springfield	2 00
"	"	" Columbus	4 00
"	"	" Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m.	and 3½ p.m.
Arrives at	9 a.m.	and 6½ p.m.
Leaves York at	5 a.m.	and 3 p.m.
Arrives at	12½ p.m.	and 8 p.m.
Leaves York for Columbia at	1½ p.m.	and 8 a.m.
Leaves Columbia for York at	8 a.m.	and 2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.

Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*

Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,

y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

f25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

	Miles.	No 1.	No. 2.
Between Phila. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2 25 and	1 90
" Pottsville "	34	1 40 and	1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12¼ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4¼ p. m., 7 p.m., 12¼ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Oils, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44-1y

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

Between Macon	and Decatur and immediate points.	0 22½	1 54	1 05	0 81	0 86
	and Knoxville & intermediate points	0 22½	1 54	1 10	0 76	0 81
	and Chattanooga.				0 61	
Between Augusta	and Decatur and intermediate points.	$0 24	1 70	1 15	0 85	0 90
	and Knoxville & intermediate points.	$0 24	1 70	1 20	0 80	0 85
	and Chattanooga.				0 65	
Between Charleston or Savannah	and Decatur and intermediate points.	$0 32	2 20	1 35	1 05	1 10
	and Knoxville & intermediate points.	$0 32	2 20	1 40	1 00	1 05
	and Chattanooga.				$0 85	

1st class.—Boxes of Hats, Bonnets and Furniture per foot.....
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Scythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs..
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks, or Crates of Crockery, Hardware, and other heavy articles not enumerated below.
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.....
Per 100 lbs.....
Cotton.

Merchandize shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.
Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot.....	$0 20
Second class, per 100 lbs.....	1 20
Cotton, per 100 lbs.....	0 55
Third class, per 100 lbs.....	0 60
Fourth class, per 100 lbs.....	0 50

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St., N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA

Saturday, February 5, 1848.

Contractors Notice.

We ask attention to the following notice for lettings on the *Youghiogany Navigation Company's* works.

NOTICE TO CONTRACTORS.

PROPOSALS WILL BE RECEIVED AT the office of the Youghiogany Navigation Co., in the Borough of Westnewton, until Wednesday, the 23 day of February next, for the construction of the seams and locks upon the Youghiogany river improvement. Plans and specifications of the work may be seen at the company's office any time after the 18th of February. And any information in regard to the work may be obtained from J. E. Day, Engineer, at Pittsburg. The proposals will be addressed to the President of the Company, at Westnewton. By order of the Board.

ALEXANDER PLUMER, *President.*

Westnewton, January 28th, 1848.

Western and Atlantic Railroad.

CONTRACTORS TAKE NOTICE.

We publish in this number a notice to contractors for the letting of thirty-eight miles on the *Western and Atlantic* railroad in Georgia, between Dalton and Chattanooga, on the Tennessee river. This section, when completed, will open the line between Savannah and Charleston, and the Tennessee river. The people of Georgia have shown that they not only appreciate, in a good degree, the value of railroads, but also that they have the enterprise and the energy to construct them, that they may, through their instrumentality, maintain their relative position among the States.

We are much gratified to learn that this link is to be soon supplied, as it will of course stimulate the people of *Tennessee* to the construction of the road from Chattanooga to Nashville, and from thence to the Ohio and the Mississippi.

When this section shall have been completed, and Tennessee performed her duty, by continuing the line to her capital, and by completing the *Hiwassee* road to Knoxville; and when the connection between the Georgia roads and the Montgomery and West Point road, shall have been completed, by which there will be an easy and rapid communication to the Alabama river steamboats; and when a railroad shall be constructed from Macon, or near there, southwesterly into Alabama and Florida, then will the cities of Charleston and Savannah, and the people generally of Georgia and South Carolina feel the influences of the works they have, with so much effort and perseverance, accomplished

NOTICE TO RAILROAD CONTRACTORS.

The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next. GEO. W. TOWNS, *Governor.*

WM. L. MITCHELL, *Chief Engineer.*

Atlanta, Ga., January 21, 1848. [706]

Engineers and Mechanic's Companion; & Engineer, Contractor, and Surveyor's Pocket Table Book.—By J. M. Scribner, A. M.

We would ask the attention of our readers to Mr. Scribner's advertisement, in this number of the Journal, of these two important labor-saving machines. There is so much useful matter compressed into a small compass, that it is difficult for many persons to appreciate their value, without first having had an opportunity of applying them to practical use. The fact that four editions of the "*Companion*" have been exhausted, and the fifth published, is an evidence that it has been found useful; so useful indeed that we again repeat what we have before said, that "no engineer or mechanic can *afford* to do without it."

Of the "Table book" we can only say, that there are over 240 pages devoted to tables of various kinds, useful to engineers and others; and the remainder to diagrams, formula, and illustrations of the tables—thus making it a ready helper in calculating excavations and embankments, and in laying out curves, etc., etc.

Both works are to be had of Zeiber & Co., and of the principal booksellers throughout the country.

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all disagreeable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without it is said. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 224 pages, colored, with 55 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

The English Iron Trade.

The iron trade is not as good as we could wish, There has been a reduction in prices. In South Staffordshire, Lord Ward's agent issued a circular fixing the price at £3 10s. The previous quarter's nominal quotations were £5.

Glasgow, Dec. 24th—quotations 47s 6d. for no 3, to 48s. 6d. cash, for no. 1. Dec. 27th—Gartsherril in good demand for the American market, and commands 50s. cash for no 1.

Dec. 31.—No remarkable change to notice in the prices. At this season pigs are not generally in demand, but there is so little iron offering for sale that the quotations are firm at 46*s.* for no. 3. 47*s.* 6*d.* for mixed nos., and 48*s.* for no. 1 cash. *Birmingham, Jan.* 4.—The preliminary quarterly meeting of the iron masters of South Staffordshire and Shropshire, was held at Dudley; most of the great iron masters were present. The discussion and the resolve, says the *Daily News*, was more interesting than is usual; sheets which last quarter day fetched £13 10*s.*, were fixed at £11 10*s.*; bars at £10 were now reduced to £8; hoops £10 10*s.*, at £8 8*s.*; and the price of pigs will depend on future circumstances—at present they will range from £3 15*s.* to £4 5*s.* In all probability they will (from the number of furnaces out of blast) soon reach a higher figure. There have been no "large useless erections" whatever, as has been said by some, nor is there any disposition to extend present works: on the contrary, to meet the exigencies of the times, the iron masters have for some time past been limiting their operations as much as possible; but, notwithstanding this, it is to be feared that at the present time there are not fewer than from 4000 to 5000 persons engaged in the iron trade out of employment, and the reduction of wages has averaged from 15 to 20 per cent.

The *Birmingham Gazette* thus comments on this subject. Although the reduction of discounts, and reviving confidence in money matters, joined with the necessitous state of our manufacturers, whose warehouses are everywhere completely destitute of iron, would seem to warrant the expectation of returning activity, still not an order is given out that can by possibility be withheld, and speculative holders have been forced to realize at the most ruinous prices—48*s.* has been mentioned in one instance; but as it is well known that a quantity of pigs yet remain, made for the purpose, which would be dear to a consumer at that rate, such a circumstance, if true, is no cause for dismay. It is also at present uncertain how long a period may elapse before the resumption of railway undertakings, and, under these circumstances, great difference of opinion exists with regard to the reduction in the price of iron.

Canadian Postage.

We shall be gratified when the two governments come to an arrangement in relation to *postage*. It is quite a tax upon publishers to pay postage to the lines, which is now necessary, upon all papers sent into the British provinces.

Railway Receipts.—Increase of--

We have, by the Cambria, London Railway Journals to the 8th Jan. We find in Herapath a full comparative weekly statement of the railway receipts for six years, up to Dec. 31st, 1847. We make the following synopsis of it by way of giving general results.

The steady and large increase of receipts from railway traffic in England, for six years, is highly encouraging to those in this country, who are struggling to construct railroads.

The receipts were in	1842	£4,341,781
" "	1843	4,827,655
" "	1844	5,581,982
" "	1845	6,619,224
" "	1846	7,661,874
" "	1847	8,949,671

The increase in miles of road in use has been from 1488 miles of road in 1842, to 3449 miles in 1847. The amount of capital expended in railways up to July, 1842. was £52,380,100, and up to July, 1847, it was £109,528,800.

The average cost of the railways up to January, 1843, appears to have been £36,360 *per mile*—and in 1847, the average cost is estimated at £31,760 per mile. It is estimated that, after allowing 35 per cent. of the gross earnings for *working expenses* up to 1842, the *net profit* was 5·38 per cent. of the entire outlay—in 1843, 5·45 per cent.—in 1844, 5·71 per cent.—in 1845, 6·01 per cent.—in 1846, 5·09 per ct.—and in 1847, 5·31 per cent.

The falling off of net profits in 1847, arises from the late period at which much of the new road, completed this year, was brought into use, and the very large outlay upon new works in the latter part of 1846, and fore part of 1847, which are not yet in use, though there is 200 miles nearly completed, and several hundred miles more in a great state of forwardness.

There has been, says *Herapath*, 11,494 miles of railway sanctioned, of which 3494 miles are now in use—and it is probable that about *eleven thousand* miles more *will be sanctioned and made!!*

Emperor of Russia and his Loans.

It has been currently reported that the emperor of Russia had made large investments in foreign funds; and we have recently heard it intimated that even our own government had negotiated a loan of twenty millions of dollars with the Russian minister, Mr. Bodisco. These rumors may all be correct, but if so, why is he borrowing?

The Railway Chronicle has the following,

"The *St. Petersburgh Gazette* publishes an imperial decree, dated September 2, by which a loan was ordered to be raised abroad for fourteen millions of rubles, in order to cover the expenses of construction of the railway from St. Petersburgh to Moscow in 1848. This loan is to be negotiated upon the same bases which were adopted for the fourth loan at 4 per cent. The fourteen millions of rubles represent at par of exchange £2,350,000."

Comparative Rates of Freight and Fare on the Principal American Railroads.

In the Journal for Nov. 20th—or No. 47, 1847—will be found a tabular statement of the rates of fare on *sixty-five* of the principal American railroads, showing the through fare, and *rate per mile* on each; and we now give—though not in tabular form, as the number of items enumerated differ so much—the rates of *freight*, and fare, on most of the roads comprised in that list. A few *short* roads have been omitted, as not material to the object in view, viz: to show that, where a low rate of fare and freight prevail, with a dense and active population, the success of railroads is most general and apparent.

There are, most likely, errors in some of the statements, as it is exceedingly difficult to get returns from all—and in some cases only the prominent articles of freight are given—we hope, therefore, that those who can, will correct such errors as we may have fallen into, in this effort to give such a statement as will be useful.

Eastern railroad, from Boston to Portland, 105 miles—coal, iron, grain, lumber, groceries and drygoods, in lots of 6 tons, through, $2 20; light and bulky articles of 140 cubic feet per ton, $2 60; passenger fare, $3, or 2·85 cents per mile.

Boston and Maine railroad—coal, iron, grain and groceries, through to South Berwick, 71 miles, $2 20; light and bulky merchandize and drygoods per ton $3 62; passenger fare, $3 to Portland, 110 miles, or 2·72 cts. per mile.

Lowell railroad, 26 miles—merchandize generally, $1 25 per 2,000 lbs.; by cargo through, $1 10; passenger fare, 65 cts., or 3 5 cts. per mile.

Nashua and Lowell, 15 miles—freight generally $1 per ton; passenger fare 40 cts. or 2 66 cts. per mile.

Concord road, Nashua to Concord, 34 miles—freight is divided into 1st and 2d class, and is charged about 4 cts. and 3½ cts. per ton per mile, or $3 and 2 50 through to Boston, 75 miles, and lumber 75 cts. per 1000, and hard wood $2 75 per cord, through; fare 80 cts., or 2·35 per mile.

Worcester railroad, 44 miles—coal, iron, lumber, etc., 4 cents; heavy merchandise, such as sugar, salt, butter, etc., about 6 cts.; groceries and drygoods, 6 to 8 cts.; light and bulky merchandise, 6 to 10 cts. per ton per mile; passenger fare, $1 25, or 2·8 cts. per mile.

Boston and Providence railroad, 42 miles—coal, iron, grain, and merchandise generally, from 5 to 7½ cts. per ton per mile; passenger fare, $1 25, or 2 97 cts. per mile.

Stonington road, from Providence to Stonington, 47½ miles—corn, grain, iron, coal, sugar, salt, and dry lumber $2; butter, dry doods, and bulky articles $2 80 per ton.

Boston and New York, via Providence and Stonington, 216 miles—freight measurement goods, 7 cts. per cubic foot; by weight, 30 cts. per 100 pounds; passenger fare, $4, or 1·85 per mile.

Boston to New York, via Fall River, 223 miles—freight 7 cents per cubic foot, and 30 cts. per 100 lbs.; passenger fare $4, or 1·79 cts. per mile.

Fall River railroad, 53 miles—coal, iron and grain, $2, and sugar, salt, groceries, butter and drygoods $2 50 per ton; light and bulky articles, charged by measurement, 140 cubic feet to the ton; passenger fare $1 35, or 2·54 per mile.

Old Colony road, Boston to Plymouth, 37 miles—freight generally 4½ cts. per ton per mile; light and bulky articles, 140 ft. to the ton; passenger fare $1, or 2·66 cts per mile.

Connecticut River road, from Springfield to Greenfield, 36 miles—freight, iron, coal, manure, lumber, grain, sugar, butter, and salt, $2; dry goods and groceries $2 40 per ton through; fare $1 10 or 3 cts. per mile.

Norwich and Worcester road, 60 miles—we have not got the rates of freight; fare $1 50, or 2·5 cts. per mile.

Providence and Worcester road 43½ miles—freight, groceries, dry goods, grain sugar, salt, butter, iron, coal, manure, and lumber, $3 for 2000 lbs.; bulky articles 15 cts. per 100 lbs. through; fares, 1st class $1 25, 2d class 85 cts., or 2·84 and 1·9 cts. per mile.

Western railroad, 156 miles—coal, iron, lumber, grain, sugar, salt, butter and groceries, $4 per 2000 lbs.; light bulky merchandise and drygoods, $7 per 2000 lbs. through; passenger fare, $4 25, or 2·72 cts. per mile; second class, $3 30.

Fitchburg, Boston to Baldwinsville, 71 miles—coal, iron, lumber, grain, groceries and drygoods, 4 cts. per ton per mile; light and bulky merchandise, 4 cts. for 150 cubic feet; passenger fare, $1 75, or 2·46 cts. per mile.

New Haven and Springfield railroad, 62 miles—coal, iron, manure, lumber, sugar, salt, etc., $2 60; groceries and drygoods, 3 50; grain, 5 20 per ton; passenger fare, $1 87, or 3 cts. per mile.

Bridgeport, 98 miles—coal, iron and marble, $3 per ton; sugar, salt, butter, 3 20; drygoods, 4; grain, 7 cts. per bushel, through; passenger fare, $2, or 2·04 cts. per mile.

New York and Harlem railroad, 53 miles—coal, $2 per ton; iron, sugar, etc., 18 cts. per 100 pounds; heavy merchandise, 3 60, and light $4 per ton; lumber, 3 50 per 1000 feet; passenger fare, $1, or 1·88 cts. per mile.

New York and Erie railroad, 87 miles—corn and grain, $3 50, sugar, salt, buiter, etc., 3 50 to $4; groceries, $4 50; drygoods going east, 4: going west, 6; light and bulky merchandise, 4 to 35 per ton, coal and manure, $2 20 through; passenger fare, $1 50, or 1·72 cents per mile.

Long Island railroad, 95 miles—coal, 1 50 for 2000 lbs.; grain, 5 cts. per bush. in bags; salt per sack, 30 cts.; merchandize, 30 cts. per 100 lbs.; lumber,

2 12 per M. *through*; passenger fare, $2, or 2·1 c. per mile.

New York and Philadelphia, 88 miles—no through freight carried on this line; passenger fare, $4, or 4·54 cts. per mile.

Patterson road, 16¼ miles—freights average about $2 50 per ton, delivered by the company; fare 50 cts., or 3 cts. per mile.

Morris and Essex road, 32¼ miles—freight, coal, iron, and manure, $2 25 per ton; corn and grain 8¼ cts. per bushel; lumber $3 per 1000 ft.; flour 25 cents per barrel; fare $1, or 3 cts. per mile.

Camden and Amboy, 90 miles—iron, coal and manure, 1 50 to $5; sugar, salt, butter, groceries, dry-goods and light and bulky merchandise, 25 cents per 100 lbs. through; fare, $3 first, and 2 50 second class, or 3·33 and 2·86 cts. per mile.

Union Transportation line, same company—iron, 5 to $8; teas, $10 per ton; drygoods, 40 cts.; light merchandise, 50 cents; bulky merchandise, 75 cents per 100 pounds.; one horse, $10, two 14, *through*.

Reading railroad, 92 miles—coal, $1 50 for 2000 lbs; bituminous coal, iron ore, 2 10; pig iron and timber, 2 50; bar iron, flour, grain, fish and tobacco, 2 90; groceries and hardware, 4 25; drygoods and furniture, 5 25; passenger fare, $3 50, or 3·8 cts. per mile.

Philadelphia and Columbia road, 82 miles—the freighting is done by private individuals at about 25 cts. per 100 lbs.; Passenger fare $2 88, or 3·5 cts. per mile.

Lancaster and Harrisburg, 36 miles—passenger fares $1 50, or 4·1 cts. per mile.

Harrisburg and Chambersburg, 56 miles—coal, iron, manure, $1 50; lumber, corn, grain, 1 78; sugar, salt, butter, groceries, drygoods, 2 per ton through; passenger fare, $2 12, or 3·78 cts. per mile.

Philadelphia, Wilmington, and Baltimore, 97 miles—freight 50 cts. per 100 lbs. through; passengers $4, or 4·13 cts. per mile—these are the winter rates—in summer it is $3, or 3·1 cts. per mile.

Baltimore and Susquehannah, 71 miles—coal, 1 37½; iron, 1 84; corn and grain, 2 20; salt and butter, 2; groceries, sugar and drygoods, $2 50 per ton through; passenger fare, $2 12, or 3 cts. per mile.

Baltimore and Ohio, 179 miles—coal, 2 46; iron, in open cars, $3; coffee, 25, drygoods 35 cts. per 100 lbs. through; passenger fare, $7, or 3·91 c. per m

Baltimore and Washington, 40 miles—coal, iron and grain, 4 cts. per ton per mile; sugar, butter, salt, drygoods, light and bulky merchandise, 2 30 per ton through; passenger fare, $1 60, or 4 cts. per mile.

Winchester and Potomac, 32 miles—coal $1, iron 1 75 per ton; flour 18 cts. per bbl.; grain 10½ per 100; sugar, dry goods, and light bulky articles 14 cts. per 100 lbs.; fare $2, or 6·25 cts. per mile.

Louisa road, 50 miles—iron $1 66; lumber $3 per 1000; corn and grain 14 cts. per bushel; sugar, salt, butter 20 cts., and dry goods 22 cts. per 100 lbs.; light articles $4 per ton; fare $2 50, or 5 cts per mile.

Richmond, Fredericksburg and Potomac, 133 miles—iron, 2 cts. per ton per mile; sugar, salt, butter, groceries and drygoods, ¼ ct. per cwt. per mile; passenger fare, $5 50, or 4·13 per mile.

Richmond and Petersburg, 22¼ miles—sugar, salt, butter, ¼ ct. per 100 lbs. per mile; groceries and drygoods, ¼ ct. per 100 lbs. per mile; passenger fare, $1, or 4·34 cts. per mile.

Petersburgh and Roanoke, to Welden, 63 miles—lumber, $5 per 1000 feet; corn and grain, 6¼ to 8¼ cts. per bushel; salt, sugar and butter, 25 cts. per 100 lbs.; passenger fare, $3, or 4·76 cts. per mile; second class, 1 50, or 2·38 cts. per mile.

Gaston and Raleigh, 87 miles—lumber, $7 per M.; corn and grain, 10 cts. per bushel; sugar, salt and butter, 35 cts.; groceries, 55 cts. per 100 lbs.; light and bulky articles, 10 cts. per cubic foot; passenger fare, $4, or 4·6 cts per mile.

Wilmington and Welden, 161¼ miles—corn and grain, 10 cts. per bush. for 80 miles, 12 cts. thro': sugar, salt and butter, 38 cts., and drygoods, 80c. per 100 lbs., through; passenger fares, $5, or 3·1 cts. per mile.

South Carolina, 136 miles—iron, 25 c. per 100 lbs.; corn and grain, 7 cts. per bushel; sugar, salt, butter, 25 cts. per 100 lbs.; light bulky merchandise, 8 cts. per cubic foot, through; passenger fare, 1st class, $6 75, or 4·96 cts. per mile.

Columbia, 68 miles—coal, iron and manure, 25 cts. per 100 lbs.; corn and grain, 7 cts. per bush.; sugar, salt and butter, 25 cts.; drygoods, 45 cts. per 100 lbs.; light bulky merchandise, 8 cts. per c. ft. through; passenger fare, $3 38, or 4 97 cents per mile,

Georgia, 171 miles—iron, 15 cts. per 100; corn and grain, 8 cts. per bushel; sugar, salt and butter, 30 cts., drygoods 60 cts. per 100; light bulky articles 10 cts. per cubic foot through; passenger fare, $7, or 4·09 cts. per mile.

Western and Atlantic, 100 miles—iron, 15 cts., sugar, salt and butter, 25 cts.; drygoods, 40 cts. per 100 lbs.; grain, 8 cts. per bush.; bulky merchandise, 8 cts. per cub. foot through; passenger fare, $5, or 5 cts. per mile.

Central, 191 miles—iron, 30 cents; salt, sugar and butter, 40 cts. per 100 lbs.; grain, 12 cts. per bushel: light bulky articles, 13 c. per c. ft. through; passenger fare, $7, or 3 65 cts. per mile.

Macon and Western, 101 miles—iron, sugar, salt and butter, 25 cts., drygoods, 44 cts. per 100 lbs.; grain, 8 cts. per bushel; light bulky merchandise, 9 cts. per cub. ft. through; passenger fare, $4, or 3·96 cts per mile.

Montgomery and West Point, 60 miles—produce and merchandise, 30 cents per 100 lbs. through; passenger fare, $3, or 5 cts. per mile.

Vicksburg and Jackson, 47 miles—sugar, coal, iron and manure, 40 cts. per 100 lbs.; salt, 60 cts. per sack; corn and grain, 10 cents per bushel; drygoods, 8 cts. per cubic foot; cotton, 87½ cts. per bale of 400 lbs.; passenger fare, $3, or 6·38 cents per mile.

West Felicianna road, 24 miles—freight, merchandise, provisions, etc., 50 cts. per 100 lbs. through; passenger fare 75 cts., or 3 1 cts. per mile.

Lexington and Ohio, 28 miles—coal, corn and grain, 5 cts. per bushel; iron, sugar, salt, butter, groceries and drygoods, light and bulky merchandise, hemp, bagging and rope, 12½ cts. per 100 pounds; passenger fare, $1 25, or 4·46 cts. per mile.

Madison and Indianapolis, 86 miles—coal, 12 cts.; grain in sacks or barrels, 9 cts. per bushel; iron, $5 per ton; sugar and butter, 55 cts., salt, 50 cts., flour, 35 cts. per barrel; groceries, drygoods, and light and bulky articles, 35 cts. per 100 lbs.; specie, $1 per 1000; *live hogs*, 50 cts. through; passenger fare, $2 50, or 2·9 per mile.

Little Miami, 84 miles—coal, iron, sugar, salt, butter, groceries and drygoods, $3 20 per ton; corn and grain, 7 cts. per bushel: light and bulky articles, 94 per ton through; passenger fare, $2, or 2·38 cts. per mile.

Mad River, 102 miles—coal, iron and manures, 8c per ton; corn, 11 cts., wheat, 12½ cts. per bushel; flour, 45 cts. per bbl.; sugar, salt and butter, 32 cts., and bulky articles, 42 cts. per 100 lbs.; passenger fares, $3 25, or 3·18 cts per mile.

Mansfield and Sandusky, 56 miles—iron, coal and manure, $1 60 per ton; corn, 6 cts., wheat 7 cts. per bushel; sugar, salt and butter, 2 dolls., drygoods, 2 50, bulky and light articles, 3 dolls. per ton through; passenger fares, $1 50, or 2·67 cents per mile.

Michigan Central, 146 miles—iron, manure, coal, corn, grain, groceries, 39 cts. per 100; salt, butter, beef, pork, fish and sugar, $1, flour, 66 cts., whiskey, beer and cider, $1 10, per barrel; corn and grain, 39, wheat, 33 cts. per 100 through; passenger fares, $4 40, or 3 cts. per mile.

Southern Michigan, 70 miles—manure and iron, 24 cts., sugar and butter, 34 cts., per 100; corn and grain, 11 cts. per bushel; flour, 40 cts. per barrel; salt, 34 cts. per barrel through; passenger fares, $2, or 2·85 cts. per mile.

Albany and Schenectady, 17 miles—iron, coal and manure, $1 per ton; sugar, salt, groceries, butter, drygoods and bulky articles, 1 25 per ton; passenger fare, 50 cts., or 2·94 cts per mile.

Troy and Schenectady, 20¼ miles—rates same as on Albany and Schenectady; passenger fare, 50 cts., or 2·43 cts. per mile.

Utica and Schenectady, 78 miles—*prohibited* from carrying freight, except when the canal is closed, and then canal tolls are added to the ordinary freight charges; passenger fare, $3, or 3·81 cts. per mile.

Utica and Syracuse, 53 miles—same as Utica and Schenectady road; passenger fare, $2, or 3·77 cts. per mile.

Syracuse and Auburn, 26 miles—coal, iron and manure, 8 cts., sugar, salt, groceries, butter and drygoods, 10 cts., and bulky merchandise, 20 cts. per 100 lbs; passenger fare, $1, or 3·84 cts. per mile.

Auburn and Rochester, 77 miles—corn and grain, 27 cts., sugar, salt, butter, groceries and drygoods, 20 cts., light and bulky articles, 30 cts. per 100 lbs.; passenger fare, $3, or 3 89 cts. per mile.

Rochester and Attica, 44 miles—coal, iron and manure, ¼ ct. per ton. grain, 1·5 ct. per bushel; butter, salt and sugar, 2·5 ct. per 100; groceries and drygoods, 4¼ mills per 100; bulky and light articles, 5 mills—*all per mile*; passenger fare, $1 56, or 3·54 cts. per mile.

Attica and Buffalo, 31¼ miles—corn and grain, 3 cts. per bushel; butter and sugar, 12 cts. per 100 through; passenger fare, 94 cts., or 2 98 cts. per mile.

Buffalo and Niagara Falls, 22 miles—freight, 10 to 12 cts. per 100 lbs.; passenger fare, 75 cts., or 3·4 cts. per mile.

Lockport and Niagara Falls, 24 miles—passenger fare, 75 cts., or 3·12 cts. per mile.

Canal Companies.—Carriers of Goods.

The Railway Chronicle says, "Having adverted in October last, to the determination of the GRAND JUNCTION CANAL COMPANY to become carriers of goods on their own account, we may now mention that this change of system has actually been introduced on the canal since the first of the current month. At the meeting of the proprietors on Tuesday last, this fact was announced by the chairman:—the moral to be drawn from it by railway companies we pointed out on a former occasion. It may be restated in a few words, as follows:—If it be found expedient to adopt the direct system on a canal, where no *particular* circumstances exist either to render the intervention of a third party inconvenient, or to prevent the common carrier from really performing the whole duty which he nominally under-

takes,—how much stronger must be the case for maintaining it on a railway, where important considerations of safety and order require the company to supply both moving power and wagons—where, in fact, three-fourths of the service, the whole profits of which the carrier has been in the habit of claiming, cannot be performed by him at all; the real transport of the goods being transacted by the owners of the line, on which his presence is a mere drawback on all the useful as well as the profitable objects of traffic?"

New Jersey Tax upon Travel and Trade.

We find the following paragraph on this subject in a late New Jersey paper, showing "the way to make a State rich." The writer says "the State of New Jersey is said to be the richest one in the union, in a financial point of view. It owes no debt to either native or foreign capitalists, and it displays a balance sheet at the close of the year which the most carping political economist in the state could not find a flaw or speck in. If it is asked how these grand results are brought about, we simply reply that the Solons of New Jersey levy a tax upon all the traffic which crosses their territory, and the whole secret is rendered as clear and unquestionable as daylight. We find by the report recently published, the following items, under the head of receipts:

Transit duties, New Jersey railroad....		$12,507 68
"	Del. and Raritan canal..	18,468 69
"	Camden and Amboy r.r.	26,745 23
Tax on capital, New Jersey railroad....		4,000 00
"	Paterson railroad.....	1,250 00

Now this large amount was levied on the persons and property passing between New York and Philadelphia during the last year, and is the cause of the high rates of fare and miserable condition of the travelling resources between the two great commercial capitals of this country. The State of New Jersey will never permit the construction of another road, unless it could pay to its exchequer a heavier rate of duty, and the consequences are continual delays, disappointments to travellers, and a very heavy draft on their purses. So much for the financiers of New Jersey."

The total of the figures is $62,971. The two last items, however, are legitimate subjects of taxation, and should not be included, therefore the amount of *extraordinary* tax is $57,721, on passengers and freight alone—but this is not all that the state derives, as the companies transferred to the state *two thousand shares* of full stock. The transit duties consist of *ten cents on each passenger, and fifteen cents on each ton of goods*, transported over their roads—and it was *guaranteed*, by the companies, that the transit duties, *and the dividends* on *one* thousand shares of the stock transferred to the state, should amount to *at least* thirty thousand dollars—or that amount be made up by the companies. The state now holds *two thousand* shares of stock, or $200,000, which is quoted in the market at 35 to 45 above par—or equal to about 280,000—the dividends upon which have been about 12 per cent. on par, making the payments to the state the past year over *eighty thousand dollars!* and for what? What outlay have the people of New Jersey made from which they receive this large income? Why simply the cost of legislation! The payment of members of the legislature, while passing and amending the acts of incorporation!!

On referring to the Railroad Journal for April and May of 1840, will be found a full and detailed report up to that period—and we shall endeavor to obtain and republish the report made in 1846, which gives its history, rise and progress; and sets forth in detail the exacting spirit of the legislature, and the burthens imposed upon the companies, in return for which their present privileges were granted. That report, together with the one just published, will exhibit their proceedings from the commencement."

Traffic of 1847 on the English Railways.

The Railway Chronicle, of January 8th, gives the following comparative statement of receipts on *seventeen* of the British railways for 1846 and 1847.

The number of miles in use on these roads in 1846, was 2,196¼; and in 1847 there was 2,718¼—showing an increased mileage of 522¼.

The receipts on the same roads in 1846 was £7,248,377; and in 1847 it was £8,191,980—showing an increase of £943,603.

The *total* number of miles of road in use in the kingdom in 1846 was 2,640; and in 1847 it was 3,400—showing an increase of miles in use of 760, or 28 per cent.

The *total* amount received on *all* the British railways in 1846 was £7,585,584; and in 1847 it was £8,796,962—showing an increase in 1847, over 1846, (notwithstanding all the commercial embarrassments,) of £1,261,378, or 16·6 per cent.

The increase of receipts is not in the same ratio as the increase of mileage; nor has the cost of those roads built within the last year or two, been near as great as those previously constructed; and therefore the returns upon the capital invested may be fully equal to that of previous years. At all events, there can be no doubt of the *entire* safety, and largely increasing productiveness of the capital thus invested, nor of the favorable influences which it produces on the value of other property. The Chronicle says:

Owing to various disturbing circumstances, it is difficult to make a just or perfectly satisfactory comparison between the traffic of the years 1846 and 1847. The mere comparison of the totals is falacious. The mileage has increased 25 per cent., the receipt only 16 on the whole of the railways. It is not to be expected that many miles which were opened towards the very end of the year should instantly be very productive. Still the prospect appears satisfactory, and particularly so in those cases where a true parallel can be made. We will not pretend to estimate what precise effect the badness of the times may have had, although it is obviously a most influential circumstance—more or less affecting all lines. To be able to form a perfectly just estimate, it is obvious that the amount of mileage ought to be the same in both years. But this happens to be the case in only one or two instances of the more important railways; in the Dublin and Kingstown, in the Lancashire and Yorkshire, and the Manchester, Sheffield and Lincolnshire. On the first named line, the increase is 6 per cent.; on the second, 2 per cent.; while on the Manchester, Sheffield and Lincolnshire it is as much as 17 per ct.; a fact of peculiar congratulation to the shareholders. Next in the category of good results stands the Newcastle and Carlisle; the mileage increase has been 8 per cent., traffic 13 per cent. In the South Eastern the mileage has increased 13, the receipts 17; Midland mileage increase 16, traffic 15; Eastern Counties, mileage 25, traffic 29; Glasgow, Paisley and Ayr, mileage 21, traffic 16; Norfolk, mileage 38, traffic 33; Dublin and Drogheda, mileage 9, traffic 6; York and Newcastle, mileage 60, traffic 40; York and N. Midland, mileage 42, traffic 24; London and North Western, mileage 13, traffic 7; London and Southcoast, mileage 36, traffic 16; London and South Western, mileage 75, traffic 20; Great Western, mileage 12, traffic 3; Edinburg and Glasgow, mileage 15, traffic 3.

In regard to all these, however, it should be remarked that the expense per mile of construction of the new lines, is generally much less than the old; so that though the revenues do not increase as the mileage, they may not increase more than the proportion of cost of construction. Our readers will find the detail in the following comparative results of traffic, 1847—1846.

NAME OF RAILWAY.	Total amount 1846.	Total amount 1847.	Increase	Increase per cent.	Miles open at end of 1847.	Increase pr ct. of mileage
Dublin and Drogheda	£38,779	£41,431	£2,652	£6·9	35	9
Dublin and Kingstown	51,654	55,117	3,463	6·9	31¼	
Eastern Counties	428,750	556,817	128,067	29·9	7¼	
Edinburgh and Glasgow	179,335	185,822	6,587	3·8	202½	25
Glasgow, Paisley and Ayr	114,526	133,400	18,874	16·5	61¼	15
Great Western	962,318	991,395	29,077	3·0	53	46
Lancashire and Yorkshire	445,428	456,400	10,972	2·5	64¼	21
London and North Western	2,067,187	2,220,281	153,094	7·4	240½	12
London, Brighton and South Coast	366,925	429,047	62,122	16·9	92¼	
London and South Western	355,569	426,807	71,238	20·0	92¼	13
Manchester, Sheffield and Lincolnshire	95,052	111,318	16,266	17·1	46	36
Midland	908,982	1,047,133	138,151	15·2	102½	75
Newcastle and Carlisle	102,039	115,370	13,331	13·0	65	16
Norfolk	74,847	99,392	24,545	33·1	81¼	8
South Eastern	400,203	447,871	47,578	17·1	165½	38
York and Newcastle	335,980	500,582	144,602	40·7	236½	13
York and North Midland	300,823	373,797	72,974	24·9	230½	60
Gross am't of traffic during 1847	£8,796,962	Aggregage length of mileage, end of '47			3,400	
" " 1846	7,535,584	" " "			2,640	
Increase, £1,261,378, or 16·6 per cent.		Increase, 28 per cent.				

Institution of Mechanical Engineers.

At the quarterly meeting of this society, held in Birmingham on the 21th November, the following paper, by Mr. Archibald Slate, on "*a Turntable Lathe*," was read by the secretary.

"This turntable lathe is capable of turning 36 ft. diameter, with 14 ft. driving-wheel. It was intended to be erected on an old cinder heap, and as the foundation was not to be depended upon, I have formed a gauntup for the lathe of three old girders, weighing about 9 tons each. Two of these support the head-stock, and the third carries the slide-rest in front of the pit. The two girders under the head-stocks rest on wood, bedded on concretes, and are held together in the centre by 2¼ in. bolts, through cast-iron distance pieces, and filled up between by concrete above the wood, so as to make a solid mass. The three girders are joined at the end by two cross plates of cast iron, making the whole into one frame. On the middle girder are placed two slides, bearing on the back of the face plate, to take off the pin when turning large diameters. The questions I propose for discussion are, the comparative steadiness of a lathe so fixed, and the advantage of the guides."—Mr. Slate observed, that as the lathe was to be erected upon a bank of cinders, with firm cast-iron centres, if the bank should slip the lathe would slip likewise, and be still fit for use at whatever angle it was situated. In answer to inquiries, Mr. Slate said that the diameter of the plate was 10 ft.; thickness of the plate 2 in.; and 15 ft. 4 in. from the outside of the arms to the centre of the face plate, which was in two pieces; the driving-wheel being 14 ft. in diameter, and the outer pieces were put on in segments, forming a continuous ring, and guide rings for the slides. The face

plate was keyed upon arms, 4 ft. 6 in. in diameter, projecting from the end of the spindle, and bolted to the flange of the spindle with counter-sunk bolts. —With respect to the amount of tremor to be expected in the working of such descsiption of lathes, Mr. Buckle remarked that the action of the screw, and worm-wheel gearing, would prevent a vast amount of tremulous motion. Other members, among whom was the chairman, contended that the spur-wheel gearing was preferable. Mr. Slate added that the total weight of the lathe being 50 tons, would have a tendency to prevent any tremulous motion in the face plate, so objectionable on account of the wavy cut produced in the work turned. Mr. Cowper stated, that in a lathe which he had constructed for turning 30 ft. diameters, the excellence of the work depended upon the steadiness of the cutter, as there was no tremulous motion in the face plates when driven by epicycloid gear. Mr. Beyer contended that it depended more on the state of the cutter in working, and related an instance where it occured in the works he is connected with. The general opinion was that the lathe was well adapted for the purposes intended by Mr. Slate. Several of the members, however, preferred the screw and worm-wheel driving power, while others preferred the spur-wheel gearing.

Tennessee Railroads.

We learn from the papers that the Legislature of Tennessee, is moving in good earnest, in favor of the construction of railroads in that State. This is as it *should* be, and we hope the bills now before the legislature will be promptly carried through; and that *then* the citizens of wealth, especially, and those of small means generally throughout the State, will take a direct and active part, to the amount of their ability, in those lines in which they feel the deepest interest. There is no man, owning property, who cannot take one or more shares, and urge his neighbor to do likewise—and in this way the people of Tennessee may have their state intersected with railroads—and an easy communication opened to the *Atlantic*, the *Mississippi*, and the *Gulf of Mexico*.

We find the following letter, from a prominent member of the Tennessee Legislature, in the Lynchburgh Republican, together with a short article from the Nashville Union, which indicate the right spirit properly directed.

We have by us the preliminary report of Mr. Lewis Troost, who passed over the route from Mobile to the Mississippi river, at Columbus, about 20 miles below the junction of the Ohio. He reports a very favorable line—and we shall hereafter make some extracts from it. But the most important works *now* under consideration are the Nashville and Chattanooga road to connect with the Georgia roads; and the Hiwasse road, and its continuation to the Virginia line, thereto be met by a road from Virginia—thus opening a way through a region of country, now comparatively without facilities for travel and transportation.

A move, we observe, has been made on this subject in the Virginia legislature, as will be seen from the following, from the Lynchburg Republican, which says that "in the house, Mr. Stephenson, from the committee on roads, reported three bills, viz: to incorporate the Lynchburg and Tennessee railroad company—to incorporate the Clarksburg and Buchanan turnpike company—and concerning the Guyandotte and Kanawha road."

If Virginia and Tennessee works together in this matter, a good railroad may be constructed which will largely benefit both States.

From the Lynchburg Republican.

WELL DONE, TENNESSEE.

We have the pleasure of presenting our readers with the following letter from a distinguished member of the Tennessee Legislature to a citizen of our town. The letter speaks for itself. Will not our own legislature go and do likewise?

NASHVILLE, TENN., JAN. 13th, 1848.

DEAR SIR:—I received your letter of the 1st January, in respect to our railroads in East Tennessee. You ask me to transmit to you a copy of the charter of the East Tennessee and Virginia railroad company. The charter which passed the senate was not printed. It is now in the other house, and will certainly pass that body. It is a charter as liberal as any ever granted; and so soon as it shall pass the house I will transmit it to you. It charters a line of railroad from Knoxville to the Virginia line; running through the valley of East Tennessee, between the Holston and Noli Chucky rivers, south east of Boyd's mountain. You are aware that the Hiwassee railroad was chartered in 1838 It has been in a state of suspension for some years, but has been recently revived under more auspicious circumstances. It taps the great Georgia road at Cross Plains in Georgia, and runs to Knoxville, 98 miles. Sixty miles of it have been graded. By a late adjudication, the company are entitled to $214,000 of State bonds. And in addition, the Senate has passed a bill appropriating $350,000 of bonds—making $564,000 The bill, I think, will pass the house; and I may say with certainty, this road will be made. My charter takes up this road, and proposes to carry it to the Va. line, 130 miles, as afore mentioned. In connexion with this subject, I may say, that the Senate have passed a bill appropriating $618,000 to the East Tennessee and Virginia railroad. I send you a paper, the Nashville Union, containing an editorial explanatory of its provisions.

I can assure you, dear sir, that the spirit is up in Tennessee, and these works will be made. I hope that the Virginia Legislature will meet Tennessee at the dividing line, and aid in the completion of a great work, essential to the prosperity of both. I will forward you, in a short time, additional information.

LANDON C. HAYNES.

The following article, from the Nashville Union, explains more particularly the nature of the bill:

EAST TENNESSEE AND VIRGINIA RAILROAD.

The charter introduced by the senator from Washington, Mr. Haynes, to incorporate the East Tennessee and Virginia railroad company, beginning at Knoxville, where the Hiwassee railroad ends, and running through the valley of East Tennessee, to the Virginia line, between the Holston and Noli Chucky rivers, passed its third reading in the Senate some weeks ago, and was transmitted to the house of representatives. There is no doubt of the passage of the charter, which will present a line of railroad extending from the Georgia road at Cross Plains, to the Virginia line, penetrating the whole length of East Tennessee.

In connexion with this road and others, a very important bill passed the Senate the third and last time, on Tuesday last, which was also introduced by the senator from Washington.

It provides that the State shall subscribe the whole amount apportioned to each of the grand divisions of the State, under the act of 1838, deducting the amount of bonds already issued to each of said divisions, from the whole sum apportioned to it. These deductions will leave $618,000 to East, $400,000 to Middle, and £614,000 to West Tennessee.

The residue of $614,000 is appropriated to East Tennessee and Virginia railroad.

Petersburg, Va. Railroad Report.

The following annual report of this company, to the Board of works, exhibits their affairs in a very prosperous condition; and establishes, beyond a question, that railroads well located and well managed, at the south, will give fair returns upon the capital invested, and be of great advantage to the people in the transportation of freight, as well as to the traveller.

We hope the suggestion of the president, in relation to aiding in the construction of a connecting link between the North and South Carolina roads, will be promptly concurred in. This company might safely subscribe $100,000, as the increase of business on their own road, from such a connection, would pay 6 per cent. upon that amount, even if the new road should not—but it *will*—be a good investment.

Each company between New York and Charleston has a *direct* interest in the early construction of this connection, and we hope they will show their interest by their acts.

Annual Report of the Petersburg Railroad Company to the Board of Public Works.

OFFICE PETERSBURG R. R. CO.,
Petersburg, Nov. 6th, 1847.

J. BROWN, JR., *Second Auditor.*

SIR:—I enclose you the returns of the Petersburg railroad company, for the twelve twelve months ending September 30th, 1847.

From these returns it appears that the gross receipts of transportation for that period were $179,867 94; the expenses and charges of all kinds to be deducted were $99.865 62. This left the net income $80,002 32. Out of this was paid a dividend of 6½ per cent., amounting to $49,167 50, and there was left a surplus $30,834 82. With this surplus, and our other means, (consisting of cash on hand at the beginning of the year, and amount collected of the debts due the company,) we paid off a portion of our debts, and there was left on deposit $24,000 in the savings banks, $11,604 69 in the other banks, and $3,000 northern draft; in all $38,604 69. This, with the amount of freight uncollected, and other debts due the company, is sufficient to extinguish its whole indebtedness, and leave a surplus of $10,797 08.

Comparing the receipts with those of the previous year, they show an increase of $11,551 57 in freight, and $7,618 15 in passengers; in all $19,096 27. In the expenses there was an increase of $15,087 05. Part of this was for new cars and improvements to road, to meet the increasing demands of the business, and part for more extensive repairs to road, the condition of which was greatly improved during the year.

We are now engaged in building a large addition to our warehouse in Petersburg, for the better accommodation of the produce

coming in, and have ordered two new engines for our passenger business. We have already built several new passenger cars, and have more in progress of construction, and are also building a number of freight cars.

The board of directors take great pleasure in calling the attention of the board of public works to the present prosperous condition of the company. We have in the last few years relaid the whole road with new iron, one fourth of which is edge rails, and built three miles of new road, and an expensive bridge across the Roanoke. We have also added considerably to our stock of engines and cars. All these improvements have been paid for out of the profits of the road, while at the same time, we were rapidly reducing our indebtedness, and paying dividends. The board consider this a proof of the advantageous position of the road for business, and of its increasing importance to the country, as well as the stockholders.

We are now virtually out of debt, and can pay fair dividends, and have a considerable surplus to continue the improvement of the road. One improvement we need is to finish relaying the track with edge rails; a work, the value of which is too obvious to dwell upon. But an improvement of more immediate and lasting importance to our interests, is the extension of one or the other of the railroads south of us to connect with the South Carolina railroads. Within the last year several steam packets have commenced running between Charleston and New York, the number of which is not only likely to increase, but to extend their lines farther along the coast. Although the number of our passengers has increased, still there is no doubt that those vessels take a good deal of travel from us, and will take more as their facilities are extended. If the gap between the North and South Carolina railroads were filled up, we would have nothing to apprehend from the steam packets. It would not only secure us from their competition, but draw travel to our road from a greater distance; this, besides increasing our profits, would enable us to add materially to the usefulness of the road by giving us the ability to reduce our tolls on produce and merchandise. It is the large travel on the northern railroads which enables them to carry freight so much cheaper than the roads in our state.

A company has been already organized to extend the Weldon and Wilmington railroad, and the people of Wilmington are so impressed with its importance that they have subscribed nearly half the stock necessary to make it. In Raleigh, Fayetteville, Cheraw, and Camden, a strong interest is manifested in the extension of the Raleigh and Gaston railroad, and an engineer has been employed to make a survey of the route. We are informed that the people in those places will contribute largely towards making this extension.

We are now in a condition to aid materially in the construction of one or both of these improvements, and we are of opinion that it is our true interest to do it. For the purpose of laying this subject and others of importance before our stockholders, we have called a special meeting to be held on the 27th instant, in order, if they agree with us, that we may be prepared to ask for the necessary powers at the approaching session of the legislature.

There is another work of considerable importance to our road, which we also propose to ask the stockholders to assist in making, to wit: the improvement of the Meherrin river. But this is a work of more importance to the section of country through which it runs, and as that section never has had any aid from the state, we trust its claims will be favorably considered by the legislature.

By order of the Board of Directors.

H. D. Bird, *President.*

Return of the Petersburg Railroad Company, September 30, 1847.

CAPITAL STOCK.

Paid by state		$323,500 00
" corp. of Petersb'g.		44,100 00
" Individuals		401,400 00
		$769,000 00

DEBTS.

To the state	16,000 56	
Dividends uncalled for	1,603 50	
Bonds	149 55	
Debt to individuals	27,763 71	
		45,517 32
Profit and loss		42,408 60
		$856,925 92
Cost of road		$801,611 52
Debts due the company	16,709 71	
Northern draft	3,000 00	
Cash in savings bank	24,000 00	
Cash on dep. in other banks,	11,604 69	
		55,314 40
		$856,925 92

Receipts and Disbursements of the Petersburg Railroad Company for the 12 *months ending* 30*th September*, 1847.

RECEIPTS.

Cash on hand September 30, 1846	4,128 74
Gross amount of transportation	179,867 94
Increased debt due by the company	14,561 34
Received of the debts due the company	5,369 47
Total receipts	203,927 49

DISBURSEMENTS.

Paid expenses of transportation, including materials on hand	81,868 43
Paid for building 20 new freight, 2 passenger cars, 3 new water stations, and new warehouse at Garysburg	8,500 00
Paid interest of debt	2,247 19
Paid of the debts due by the company	16,289 68
Paid dividend of January and July, 6¼ per cent	49,167 50
Paid F. E. Rives, on acc't of contract	7,250 00
Paid for northern draft	3,000 00
Cash on hand Sept. 30, 1847	35,604 69
	$203,927 49

Detailed Statement of the Receipts and Expenses of Transportation for the 12 *months ending September* 30, 1847.

There was carried on the road during these 12 months,

31,553 passengers,
13,013 hogsheads tobacco,
175,607 bushels of grain,
8,724 bales of cotton,
7,203 barrels of flour,
23,339 boxes manufactured tobacco, and
6,456 tons of merchandise, which paid as follows:

Passengers	72,058 10	
Freight	78,584 71	
Mail	14,894 51	
		$165,537 32
Transportation of passeng's on the Greensville road	3,115 64	
Transportation of freight on the Greensville road	10,414 98	
Transportation of mail on the Greensville road	800 00	
		14,330 62
Total receipts of transportation		$179,867 94

EXPENSES.

Salaries of president, treasurer, and 2 clerks	5,000 00	
Costs of agents and labor at depots	9,939 13	
Cost of running engines, oil and fuel	18,450 57	
Cost of repairs of engines and cars	13,363 06	
Cost of repairs of railroad	29,798 58	
Miscellaneous expenses	5,317 09	
	$81,868 43	
This contains rails, sills, wood, and oil on hand October 1, 1847	8,231 30	
Leaving the current expen.		73,637 13
Income after payment of expenses		106,230 81
Deduct materials paid for as above, and on hand	8,231 30	
New cars, depots, int'st and paym't to Rives, as above,	17,997 19	
		26,228 49
Leaves the net income, applicable to the reduction of debt and payment of dividends		$80,002 32

COMPARATIVE STATEMENT.

	Sept. 30, 1846.	Sept. 30, 1847.	Increase.	Decrease.
Capital stock	$769,000 00	$769,000 00		
Debt	47,215 66	45,517 32		
Profit and loss	156,683 48	42,408 60		114,274 88
Cost of railroad	972,929 14	856,925 92		145,109 70
Debts due the company	946,721 22	801,911 52*		5,369 47
Cash	22,079 18	16,709 71		
Cash and assets	4,123 74	38,604 69	34,475 95	
Indebtedness	972,929 14	856,925 92		
Received from freight	77,449 82	88,999 69	11,551 57	
" passengers	67,555 59	75,173 74	7,618 15	
" mail	15,767 46	15,694 51		72 95
Total receipts	160,721 67	179,867 94	19,096 27	
Current expenses	63,470 93	81,868 43	18,397 50	
All other charges	21,307 64	17,997 19		3,310 45
Total charges	81,778 57	99,865 62	15,087 05	
Net income	75,993 10	80,002 32	4,009 22	
Dividend 6 per cent.	47,215 66	44,517 32	1 per cent.	
Amount of debt	26,207 92	17,997 19		
Indebtedness	21,037 74	None.		

* Decrease by profit and loss charged February 1, 1847, to cover the loss on steamboats, and depreciation of engines and cars.

Statement of the Officers, Agents, and number of Engine men, Conductors, Workmen, etc., in the employ of the Petersburg Railroad Company, October 1*st*, 1847, *with their annual pay or cost.*

GENERAL SUPERINTENDENCE.

President	$2,500
Treasurer	1,500
Two clerks	1,000
	$5,000 00

Employed at Depots.		
Petersburg depot—receiving agent $800; delivering agent $600; overseer of hands 400; 2 night watchmen 360; 14 negroes 1555,	3,715	
Cost of 5 agents and 14 hands at six way depots.....	2,705	
Cost of agent, 3 hands, and rent of warehouse at Weldon.....	1,000	
Cost of 2 agents and 5 hands at way depots on the Greensville road $410; 1 agent, 2 assistants, and 10 hands at Gaston depot $2,415.....	3,225	
		10,615
Employed in Repairs of Engines and Cars, and building new cars.		
Foreman of shops.....	800	
" carpenters.....	624	
7 machinists.....	3,068	
15 carpenters.....	4,031	
4 blacksmiths.....	2,640	
1 brass founder.....	416	
1 painter and trimmer.....	468	
1 engine man and 5 strikers and laborers.....	1,040	
		12,087
Employed on Engines and Trains.		
9 engine men.....	5,400	
5 conductors.....	1,860	
18 firemen and train hands.....	2,871	
		10,131
Employed in Repairs of Railroad.		
3 overseers.....	1,150	
38 laborers.....	4,033	
		5,183
Employed in Rebuilding Bridges, Extending Depots, etc.		
1 foreman.....	600	
7 carpenters.....	1,710	
6 laborers.....	721	
		3,031
		$46,077

This road is 63 miles in length to Weldon, and the fare $3—second class $1 50. Freights, lumber 5 dollars per 1000—grain 6¼ to 8¼ cents per bushel. Heavy merchandise 25 cents per 100.

Cattle on Railways.

The Dumfries Herald has the following article on the advantages of railways in the transportation of fat cattle, and other stock from distant points to market.

The editor says—

We have repeatedly called the attention of our readers to the exertions which, during the last few months, have been made by the great southern railways to secure the traffic in cattle from this district to the eastern counties of England, and have stated from time to time the success with which their efforts have been crowned.

We confess that, although at the outset we entertained confident expectations that the dealers would soon discover the great advantages of the rail over the road, we did not think that they would fall so soon into the new system as they have done.

Before the opening of the railway communication from Carlisle southward, droves of cattle were from 22 to 24 days upon the road between Dumfries and Norwich, which, as most of our readers are aware, is the principal weekly market for Scotch cattle in the eastern counties.

For the last two or three years, the trade has been subject to heavy losses, by the cattle taking the murrain upon the road. Out of a 400 head, we have known one third infected, and left behind at the different stages, and which, before they could recover, were greatly depreciated in value.

It is a fact that, before the opening of the railway from Carlisle, the trade was conducted in a very irregular manner, inasmuch as the market at Norwich one week would be literally glutted with stock, and the next but thinly supplied. The trade, therefore, became quite a speculative one, and prices were governed by the supply. A dealer, too, required to lie out of his capital a considerable period, say five or six weeks from the time of purchasing to that of selling, which prevented men with limited means from entering the trade; and it has consequently fallen into the hands of a few with large capital. But in the course of six or seven months what a change has been produced fraught with the most important advantages not only to the dealers, but to the whole district. The old highway of yesterday, with its toll gates and its stages, its annoyances and inconveniences, must now give place to the iron girt road of to-day, with all its attendant improvements, affording a cheap, easy, and rapid communication with the most distant parts of the country, breaking through old laws and customs, knitting together town with town, and county with county, in close bonds of friendly intercourse, and extending civilization and improvement through the length and breadth of the land.

Perhaps there is no other traffic which, as the railway system is extended, will derive greater advantages from its adoption than that upon which we are now writing.

To confine ourselves to the trade between this district and the eastern counties, we may remark that the journey from Dumfries to Norwich, which by the road (as before stated) occupies from twenty two to twenty-four days, is now performed in as many hours. The cattle are loaded upon the railway trucks at Carlisle, and not removed until they arrive at Norwich, a distance by rail of some 370 miles.

Let us for a moment consider the advantages the dealers derive from sending by rail in place of travelling by the road.

A dealer in Dumfriesshire receives notice on Monday from his salesman in Norwich, of the state of the previous Saturday market. If it is such as to warrant him in supposing that the following market may be one in which he can sell his cattle to advantage, a drove is immediately sent to Carlisle, for conveyance by railway; they are despatched on Wednesday, say at 9 o'clock in the morning, and about the same hour on Thursday they are at Norwich. They have two days and nights to rest after the journey; on the Saturday they are driven to market and sold; and on Monday the dealer receives a cheque from his salesman for the amount.

Thus it will be seen that, in November, 1847, five journeys can be made to Norwich for one made in the same month in 1846; and the same trade can be conducted with about one fifth of the capital.

The result of all this must be to the advantage of the dealers; for, by a little combination and management, they will be able to regulate the supply more to the demand, and conduct their trade upon a surer basis.

It has given us great pleasure to observe the energy and liberality which have characterized the southern companies in cultivating the cattle traffic from this district; and we can assure them that, if they continue to pursue the same course, they will secure a trade the extent of which cannot be foreseen, and the importance of which cannot be overrated.

It is not the trade in lean cattle alone we look to. This district is one of the richest of all Scotland; and *thousands* of cattle and sheep are fattened annually, and sent to Newcastle, Glasgow, Liverpool, etc.

To the last named place immense numbers are sent by steamers, and thence by rail to Manchester, and the whole of the manufacturing districts. There is no doubt that the company will see the importance of cultivating this traffic. We have no hesitation in believing that, since keep has become so scarce in the south, in the course of another month we shall have fat cattle and sheep leaving this for the London markets.

We are sure that the North-western company will see the policy of cultivating a friendly feeling with the principal graziers and dealers here, and that no illiberal act will interrupt the onward progress of this branch of their traffic, which promises to be alike beneficial to the public and to the company.

We cannot close these remarks without paying our tribute of praise to the great perseverance and energy of Mr. Ormandy, the cattle traffic manager, to whose liberal views and undeviating attention, the dealers are justly indebted, and the company owe their present success in this district.

Steamboat Explosions.

We copy the following brief article on this subject from the National Intelligencer of 31st Jan., and ask for it the attention of those who are interested in it—and who is not? It is time that more efficient measures were adopted to guard against the wholesale murders committed on board of steamboats in this country.

PHILADELPHIA, JAN. 18, 1848.

MESSRS. EDITORS:—The great frequency of steamboat disasters on the Western waters have appalled the public mind, and it is due to humanity and the safety of the tens of thousands of travellers by steamboats that something should be done to prevent in future, as far as possible, a recurrence of these evils. The accidents from explosions of steamboat boilers may be traced to several sources, viz:

1st. To the inferiority of the metal employed, the iron being more easily corroded than copper. It is seldom that a boiler bursts on the seaboard; this is owing to the boilers being generally made of that metal. The deposite in the waters of the western rivers more readily corrodes the metal than the rivers on the seaboard.

2d. The inattention of the engineers, and often their ignorance; the great number of steamboats requiring so many engineers, many of whom are not fit for the duty being negligent and addicted to drinking.

34 The carelessness of the steamboat captains, who sometimes, on stopping at a place, say to the engineer, we stop here five or ten minutes; while often the time is prolonged for half an hour, the steam all the while accumulating.

This may account, perhaps, for some of the accidents which happen just as the boat leaves the last stopping place; the hands on board, with the engineer, are all full of excitement, and from neglect the boiler bursts, and a number of immortal souls are hurried into eternity, "unanointed and unanealed;" the heart sickens at the spectacle, and the tears of the widow and orphan flow with bitter anguish. Must these things be? Can not something be done? Why not establish schools for engineers in the west, where men may be regularly taught their duty, and receive, when they have learned the art, such a recommendation as to morals and good general character, sobriety, and a perfect knowledge of the steam engine, as will enable the public to confide in their security? Owners of steamboats would then know where to go for good and faithful engineers, and many valuable lives be spared. Let all passenger boats have copper boilers, cost what they may; for what is money in comparison with human life? Any boat having such boilers will be encouraged above all others, and the difference in cost will soon be made up in the increased patronage received, while the owners will have the satisfaction of knowing they have done all they could to preserve the lives of their fellow creatures. L. W. G.

Post Office Department and the Railroads.

We have endeavored to give a fair statement of the difference, and arguments, between the department and the Richmond and Fredericksburg railroad company, without expressing fully our own views on the subject; as, in giving our views without reserve, and in the full conviction of their being just, we might be deemed, by some, *partial* to the interest we advocate. But when we find our own views so ably and fearlessly set forth—so much better, indeed, than we could possibly express them—in the *National Intelligencer*, by one who says he is not a party interested, we cannot refrain from giving them a place in the Journal, and calling the attention of our readers and our exchange papers to the article. It is no more than just to the railroad interest that it should be published by every newspaper in the country, and we hope to hear again from "Vindicator" on the subject, as he can do much to set the people right in the matter.

RAILROADS IN THEIR RELATION TO THE GOVERNMENT AND THE PUBLIC.

"Give a dog an ill name, and hang him," says the proverb. Hang him first, and try him afterwards! And that's the sort of justice that some men in and of authority would deal out to the directors of railroads. The government and the press unite in stimulating the public to consider these roads as so many "odious monopolies," and those who refuse to join in the senseless hue and cry are denounced as the worst of public enemies, ever *federal* aristocrats, friends of monopoly, and oppressors of the people. Will you then lend the use of a column to one who has not the slightest interest in the subject, that some opposition may be offered to this accumulating torrent of prejudice, if it be but with a straw, or a gray goose quill.

Talk of monopolies! Why, of all monopolies, governments are apt to be the most oppressive and unjust in proportion as they are at once powerful and irresponsible. While they decree their own immunity from the law, they contract enormous debts, and *sometimes* repudiate them; or else delay payment until it amounts to a virtual denial of justice. How many just claims against *our* immediate government have been abandoned in despair, rather than encounter the expense and procrastination appeal to the two hundred chancellors in the capitol, whose tardy and capricious decrees are at least liable to be nullified by a presidential *veto!*

But, first of all, let any man, seeking to do justice in these disputes between the government and the roads, consider who are the real parties at issue. On the one hand, the postmaster general, representing the government, may be said to embody the means and power of the whole Union. On the other, the directors of these railroads act as the mere agents of comparatively powerless individuals, in many cases widows and orphans, being men whose business capacity is relied on to make the most of the property confided to their care; men whose public spirit, or if you will, whose interests have prompted them to undertake great works of incalculable public utility and convenience, which the government, with all its strength and resources, refused to touch or countenance in any way. The Postmaster General and his chief, the president, admit that not with their consent would a single mile of railroad have been constructed to this day, in the whole union, by government assistance or even authority, for they would not grant a charter to such *odious monopolies*. Had it depended on them, we should still (which too many of us forget) have been lumbering along, with ten or twelve passengers, in a slow coach, up to the hub in mud and mire, and glad to get through to and fro, between Philadelphia and Baltimore, with whole bones, in thirty-six hours, for $12, instead of six hours for $4, and reading quietly all the way at that! The government would, it seems, play dog in the manger. While it disclaims both inclination and power to construct these works, which add so immensely to our military strength, they would compensate those who do make them, under vast difficulties, with nothing but opprobrium and extortion. Powerful as it is, instead of taking its chance, as individuals do, for the adjustment of a *quantum meruit*, for work and labor done, it first passes a *law* to fix the price for carrying the mail at its own valuation, and then provoking competition, while it prohibits concert among contractors, instead of seeking anxiously how *much* it may be allowed to give in the way of indirect assistance and encouragement to great undertakings essentially *national* in their character, its niggardly solicitude is to take every advantage, and to see for *how little* it can, by every pedding expedient, get the service rendered; and then unblushingly boast of how much it has reduced the compensation by playing off one contractor against another. Now, while the public is encouraged to stigmatize these railroads as heartless extortioners, let us look at the nature of the office they perform, and their effect on the public prosperity, over and above the work they do for the government. But, first, does that work consist in nothing but the transportation of the mail? Do they not save to the government and the people, hundreds and thousands annually in the reduced charges for the transportation of their military officers, men, cannon, munitions and provisions of war? And since the contest is waged against them in this miserly spirit on the part of the government in the case of the public mail, what if these companies were to say to it, You must pay us the same for transporting an officer, a soldier, or a cannon, or a horse, that you would have had to pay for the same service before we (without your aid, which was refused) constructed this work! And when you, the government, wielding the purse of the whole nation, consider how much is saved to you in point of expedition, you should be glad to pay the same amount. The only wonder is, especially if these railroads were actuated by the spirit of extortion imputed to them, that they do *not* exact, for all services rendered to *the government*, as much as they can force them to pay. It would be not only just in itself, but politic, as it would encourage the construction of such works for the benefit of the country.

Were the government to pay the same in all cases as before these roads were built, it would be but a contribution by the public, in value immeasurably short of the rich fruits which the public—the whole American community—has derived from their construction; for, let any just man reflect how they expedite and cheapen the transportation and exchange of the products of every branch of American industry; what mines of dormant wealth they open, to give employment to labor, augmenting the means of subsistence for the growth of population and power? And are such results of *individual* enterprise to be held as of no public account, beyond the pittance doled out to them for the transportation of the mail and other actual services? But, omitting all account of the actual saving in the money cost of transportation of goods and travelling of persons over these railroads, who shall attempt to calculate the value of the time saved by the millions travelling daily along these lines throughout the Union? It is, in fact, *the productive application of the time* that was formerly wasted on the road which constitutes one great secret of the otherwise inexplicable increase of population, in all countries where steam power and these roads united have superseded manual labor and animal motive agency. In our country, where the government is omnipotent for war and the creation of war debts, these great civil structures have been left, as between Washington and Richmond, and all over the country, ex-

clusively to individual risk and enterprise, and patriotism—sometimes, it is true, encouraged, after a fashion, by state patronage. Even the States have dealt with them, in many cases, rather as ban s of speculators and sharpers, to be suspected and watched, than as great public benefactors, whose enterprises serve to diffuse knowledge, and spread the light and blessings of civilization over the land. When solicited to undertake these works, requiring immense means, and whose benefits extend to the remotest corners of the republic, the general government has utterly refused, and the state governments have, in most cases, said No! we will neither do it in behalf of the people we represent, nor *allow* you to do it, at your individual cost and risk, unless you pay us a large bonus for being permitted thus to provide a great and valuable public convenience; we will first restrict you in your charges; demand for the State a large portion of your ncome from passengers; force you to charge them the highest rate of fare; draw down public censure on your heads, and then swell the chorus of public abuse, stigmatize yon as extortioners, and insist that you should carry the mail, like a bale of cotton, by weight; time your movements at the bidding of the department, without reference to the public travel, and subject yourself to fine and deduction for every failu e, at the discretion of those who confound niggardliness with economy, and fancy they have done wonders for the melioration of a great department of government, when they have succeeded in getting a contractor to carry the mail for less than the cost of his horse feed, if bought in the Baltimore market. Such is the spirit that characterizes the treatment of these private associations for the construction of munificent works that are indispensable to the development of our national resources, and that infinitely multiply the military capacities of the country, conferring the means of defence against foreign aggression, far, very far beyond the capacity of fortifications, for the first cost of which the government has expended already some *twenty millions of dollars.*

As before said, it is not the mere trans portation of the mail for which the government and the country—in other words, the people—are indebted to the railroads. It would be but fair to make them a great allowance in mail pay, or at least in good will, for their contribution to the growth of national population and power, and for the sense and reality of insurance which they afford against external danger in peace and in war. Take, for instance, the military property and character of the road between *Philadelphia and New York*, with their half million of people and countless millions of property. How was that great public work provided, against which, too, the post office department keeps up an eternal warfare. Neither the general nor state governments would shovel a spadeful of earth, or provide for it a single rail. For them the old state of things would have remained till doomsday, had it not been for the genius, sagacity, enterprise, and means of a few energetic and opulent individuals, such as Commodore Stockton, and Potter, and Thompson, and the Stevenses, who had the forecast and courage to pledge their fortunes and credit for its construction, at the cost of millions. Without any stretch of imagination or truth, they may be said to have thus appealed to the general and state governments: "Here is a great work to be attempted, demanded by the spirit of the age, and by every species of industry, not merely of these large cities, but of the States and the Union. Will you borrow the money for the undertaking, and hypothecate the substance of your constituents for the cost of the work?"

"No!" says the government of the Union and of the State of New Jersey. "It is not 'in the bond;' nor if it were, would we risk the result; neither will we," said New Jersey, "aid or permit you to do it; but *we will sell you the privilege* of doing what we have neither the public spirit nor courage to undertake. We will give you 'aid and comfort' on the following terms: 1. As this great work is to facilitate travel and exchanges of all the products of labor, you must relieve from taxation those for whose benefit it will ensure, by paying to the state a *bonus* equal to the expenses of its government. 2. You must let us value the worth of your services, and fix your prices, beyond which you shall not charge for them. 3. We will take a large portion of your pay for passengers, coming from every quarter of the Union, and you must charge them that much more than you could otherwise afford to carry them for; but you must consent to bear all the odium of this tax on the travelling public, and agree that the press shall unite in stimulating the public prejudices against you, as a set of unconscionable monopolizers. 4. You must carry all public men, and stores, and munitions of war for the general government, besides, on the same terms that you carry boxes of sugar, hogsheads of molasses, and bags of corn, for individuals; and, when you come under the law, to make a specific bargain for the transportation of the public mail, you must submit to have the time fixed, and the maximum (not the minimum) price fixed; then disgorge half your pay, in the shape of fines. You must disregard the interests of your constituents, who depend for their subsistence on your dividends, and put trust in your good management; you must covet only the praises of the public, and the *honor* of serving the government at all hours, and on its own terms. And this is the spirit in which power, residing where it may, whether in governments or individuals; this is the spirit in which might would ever deal with a weaker power. But where should tend the sympathy of a just and discerning community? In favor of the government which will do nothing, or to the side of individuals whose enterprise has quickened every industry, and raised us to a height of prosperity and power that makes us the admiration and wonder of the world? Which of these contending powers deserves most to enlist, especially the countenance of the public press, whose products these roads are distributing for universal enlightenment and civilization? Instead of inclining to the side of individual defendants, in this great assault of the government monopoly, with a canine instinct, as cruel as unjust, the press rushes into the fray with unhesitating readiness to assist in exterminating the weaker party.

After all, these quarrels amount to an unequal contest between the government and incorporated individuals, by whom works of great national magnitude and value have been provided; and the true interest of the public requires that, instead of chaffering to see *how little* it should pay, the post office department should be constituted the organ of every department of the government, with authority and injunction to aid in the prosecution and indemnification of these works, by engaging beforehand a scale of pay that should be equivalent to a liberal interest on their cost, in consideration, not only of the transportation of the mail, but of the direc saving to the government, both in *time* and money, in the transportation of men and military munitions and despatches, and of the direct incalculable contribution of these works of individual enterprise to the *military defences, the growth, the wealth, the security, and the power of the nation.* That is the spirit in which enlarged and liberal minded men would delight to deal with, and to encourage them.

VINDICATOR.

Railroad Monopoly in New Jersey.

The following article, from the Burlington (N.J.) Gazette, in relation to the peculiar legislation, and taxation—*of transit duties on men and things*—of that State, will be read with interest by many who have so often paid a tax for the privilege of passing over the soil of New Jersey.

As it is written by a *Jerseyman*, who sees, and *feels daily*, what he writes about, we may safely, we presume, republish it, without fear of reproach. It is hardly necessary for us to say that we are, altogether, for a free unfettered intercourse between the States, and cities, and towns; and we hold it to be *unjust* and *unconstitutional* in any State to tax the citizens of other States, or their goods, for passing through their territory. It would be much more for the prosperity of business—much more for the credit of the people, and much more in accordance with the *spirit of the age*—to allow and encourage *competition*, and the construction of *other* roads, and the dr win g of other people, and additional capital, within her territory; thus stimulating industry, increasing the value of property, and giving new life and energy t every branch of business, in all parts of the Sta e; rather than to *prohibit*, by unjust laws, the natural extensions of a system which contributes so largely to the general convenience and prosperity of the people, and taxes the citizens of other States who find it necessary to breathe the air of New Jersey while engaged in their ordinary pursuits. We give the article entire.

To the Members of the Legislature of New Jersey:

GENTLEMEN: The time is now rapidly approaching—if indeed it has not already arrived—when it will become necessary for the people of this State to review their revenue system, and to determine for themselves the justice or injustice, the policy or impolicy, of its further continuance. By other States it is felt to be grievously oppressive, and so much

so that unless some measure of redress be adopted within the State, other measures will certainly be adopted elsewhere that will render a change indispensable.

By the charter of the *Camden and Amboy Railroad Co.* that association is secured in a monopoly of all the trade in merchandise and passengers across the State between the two principal cities of the Union, with a view to enable them to extort from travellers and merchants, contributions so large as to permit them to fee the State handsomely, in return for the aid that is thus afforded in carrying out their benevolent desires. How far the company avails itself of the power thus secured to them, may be ascertained by a comparison of its charges with those in the following list, embracing nearly every railroad in the Union, north of Baltimore and east of Ohio.

1.	2·85	13.	3·00	25	3·33
2.	2·72	14.	2·01	26.	2·43
3.	2·50	15.	1·88	27.	3·34
4.	2·80	16.	1·72	28.	3·77
5.	2·97	17.	2·27	29.	3·81
6.	2·46	18.	3·26	30.	3·89
7.	2·54	19.	3·01	31.	3·54
8.	2·66	20.	2·34	32.	2·98
9.	2.27	21.	3·73	33.	3·04
10.	2·66	22.	2·38	34.	3·12
11.	2·35	23.	3·78		
12.	2·50	24.	2·94		97·41

Average 2·68 cents per mile.

Even this high average is obtained by inserting a number of small roads upon which the travel and traffic, per mile, are not as great in a year as upon the Camden and Amboy road in a month, or perhaps in a fortnight. Were all of these omitted, the true average would be found not to vary greatly from the price in the New Jersey railroad, which is 2·27 per mile, and this would give $2 as the true price of the conveyance of passengers from New York to Philadelphia, and even that is more than it would cost under a free system of competition.

In making the comparison, I shall reject entirely the route by Amboy. The rate of charge by it is less than by the other, but inconvenient hours, bad cars and a miserable old steamboat, have always prevented travel by that route, and thus the passenger business has been forced to take the direction of New Brunswick, upon which the charge is 4 54 cents per mile, or precisely double the price of the 33 miles from that place to New York. The amount thus extorted may be taken at $2 per head.

In consideration of the grant of the privilege to tax the unhappy persons who are compelled to cross the State, the company pays ten cents per head, or one-thirtieth of the sum that it receives for transporting passengers to New Brunswick, where it hands them over to the tender mercies of the New Jersey company, which takes its share of the monopoly by charging them a dollar for performing the same service which it performs for others for 75, if not even for 50 cents. It pays also 15 cents per ton for merchandise transported, and this also is about one-thirtieth of the amount received.

The amount of contribution to the funds of the State is $36,000, derived from the receipts of almost one-thirtieth of the receipts of the company, which are twelve hundred thousand dollars. The charges being *more than double* what they would be under a system of free competition, it follows that the tax *directly* imposed upon the people who use the road exceeds $600,000. And this tax is imposed by New Jersey, in order that she may obtain $36.000 as her share of the spoil!

Were this the only evil, it might perhaps be borne, but it is not. The interferences with trade and travel are enormous. For one person that now passes between the cities, there would go five, were the price two dollars, and ten, were it, as it should be, a dollar and a half. For one package of merchandise that now passes, dozens would go were transportation at a fair price. The loss to the community by these interferences is treble the amount of the *direct* tax, and the whole may fairly be set down as above two millions of dollars a year, and all this that New Jersey may take its dime out of the traveller's pocket.

The loss to the State is immense, as is always the case with those who undertake to interfere improperly with the rights or the property of others. Under a system of perfectly free competition rival roads would exist, and each and all would be forced to exert themselves to draw trade, and to make trade. Branch roads would then be made in every direction, and the State would gradually become, as it should, a garden, which it never can do under the present system. The company has placed itself between the two great cities of the Union, as tax-gatherer for itself and the State, and it has business enough in collecting its taxes. It makes no roads itself, and it permits none else to make them. It is their boast, as I have been repeatedly informed, that no road *can* be made anywhere in the State without their permission. How far this is true, I cannot pretend to say, but I *can* say that out of the State it is universally believed that while the power of legislation is nominally in the hands of the legislature, it is really in those of the Camden and Amboy railroad company, who are supposed to reign supreme from the county of Warren to Cape May.

The loss to the State from this course of operation is incalculable, and I feel assured that I should be safe in putting it down at a sum as great as that inflicted on the Union. Burlington enjoys greater advantages than are permitted to most of the places in the State, yet I am well satisfied that the abolition of this monopoly would be worth to that town and neighborhood alone, as much as the whole revenue that is derived by the State from pillaging the unhappy travellers and unfortunate merchants who find themselves compelled to use her roads. If the railroad monopoly had no existence, it would soon have treble the facilities that it now enjoys, and thrice the number of persons would visit it, while diminished freights would increase the facility of transporting produce to market, and manure from market, and stimulate agriculture to an extent that would bring into activity vast bodies of land that are now entirely unproductive, while doubling the value of all. The whole vicinity would become one great garden, and hundreds would reside there permanently or temporarily, who cannot come under the existing system. Men and women who know how people travel elsewhere, find it unpleasant to travel in old and dirty, and sometimes filthy, cars. Still more unpleasant do they find it to be compelled to wait in hundreds while their fellow passengers, droves of hogs, are run down and caught, preparatory to being loaded Yet more unpleasant than this is the necessity for contending with droves of sheep and hogs, on board of old and filthy ferry boats, for standing room—and these things they must do, if they would live in Burlington.

Trenton would double in population and wealth in half the time that will be required if this monopoly be continued, and such would be the case with every town in the State.—The whole system is one of grasping rapacity as to the taxes imposed, and of meanness as to the accommodation afforded. The boat that now transports passengers from Philadelphia to Taconey is more than 20 years old, and could not live a week in any other part of the Union, out of the protection of this State. To pass from Philadelphia to Bordentown, a distance of less than 30 miles, requires more time than to go from New York to Newburg, a distance of 60 miles, and the tax on time that is thus imposed is more than the whole revenue to the State; yet all this is done under the mistaken idea that the State can pilfer from the pockets of its neighbors, without paying itself the penalty of such misdeeds. It pays millions that it may save thousands.

Such being the state of the case in a pecuniary point of view, how is it a point of character? Throughout the Union there is an universal feeling that every man who travels through the State is plundered for its benefit, and all would avoid it if they could. It is time that this stigma should be removed.—The tax that would be required to replace the paltry sum now paid into the treasury would be insignificant when compared with the rapid increase in population, production and wealth, that would follow the abolition of a monopoly, odious beyond any other that has ever existed in the Union. Whether or not the State possesses the power to rid itself of the incubus that now fattens upon it, is held by all who live without its limits, to be matter of extreme doubt; but if aid from abroad be desired, it can readily be had, for from one end of the country to the other there would be a disposition to unite in a long pull, a strong pull, and a pull all together, for its destruction. The highest legal authorities in the Union have given their opinion that the monopoly portions of the charter are not binding on the State, and any one who studies the constitution of the United States must be satisfied that they are in conflict with both the letter and the spirit of that instrument, and that they cannot and will not stand the test of a trial before the supreme court of the Union to which tribunal the question will go, unless the State shall be able to free itself without such aid. A CITIZEN OF BURLINGTON.

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NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad. Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ¼ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia

SEALED PROPOSALS WILL BE RECEIVED until Thursday the tenth of FEBRUARY next, at the Engineer's office in the city of Columbus, for the Graduation and Masonry of the whole line of the MUSCOGEE RAILROAD, to Barnesville, and a bridge over Flint river.

The cuttings and fillings will be marked on the ground, also plans and specifications, exhibited at the office from the 1st to the 10th of February, and any further information given on application.

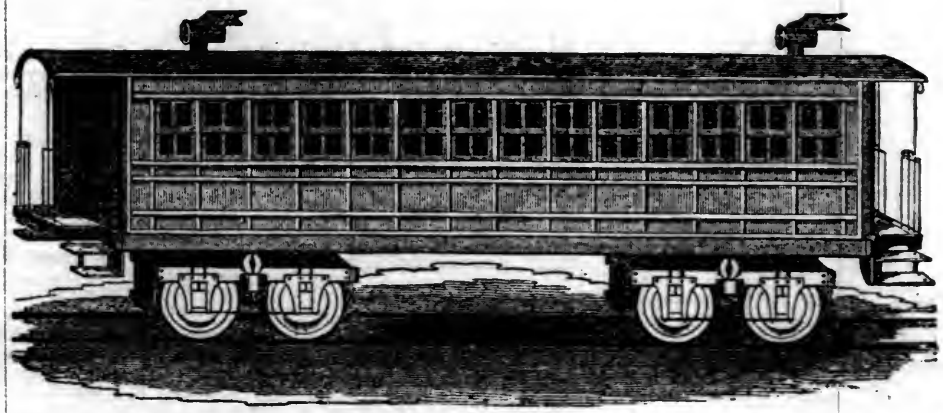
Payments will be made every sixty days through the progress of the work, one half in cash and one half in the capital stock of the company, and as it is expected that many planters, unacquainted with such work, will be bidders, the estimate of the engineer will be shown in order that they may bid in the form of a premium or discount thereon.

The work is divided into seventy-five sections of nearly a mile each, and where a contractor bids for more than one section, a distinct bid will be required on each.

By order of the Board of Directors,
DANIEL GRIFFIN, Chief Engineer.

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe. Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

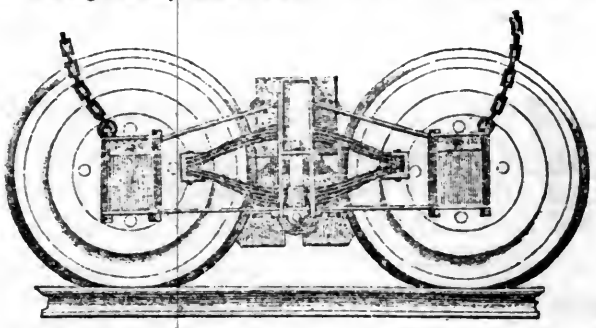
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow-Street Wharf,
1tr Philadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
1y48 77 Pine St., New York.

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRI-ber having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.— for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2½	5	2	6½	9	4	13¼	1-2	7½
16	2¼	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.---THE ATTEN-tion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

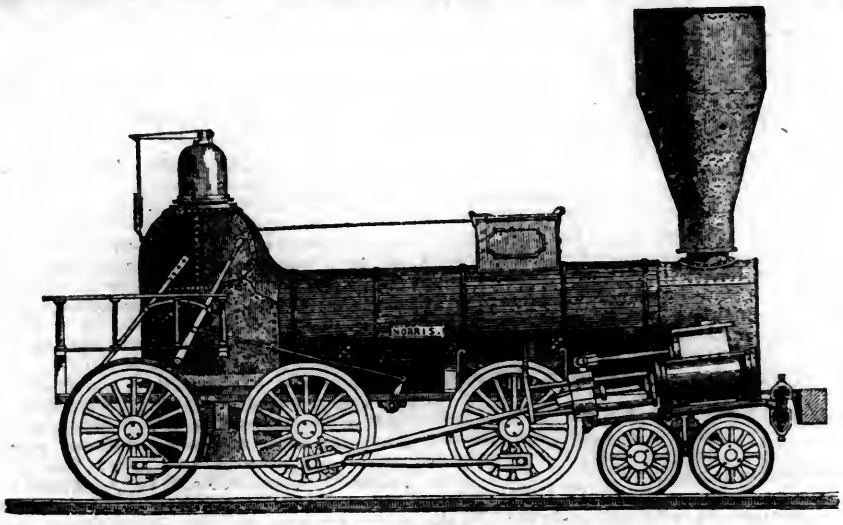
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by.

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.


WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Mon-


day, April 5, 1847, the Pas-

senger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars


will run as follows, until further

notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 18 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS. the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nash-


ua Railroads, run daily between

Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILroad. Summer Arrangement. Change of


Hours. Commencing on

Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't.

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday


May 1st, trains will run as

follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

5tf DAVID S. IVES, Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton,


and Bristol. (Through in

six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia. Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger


trains will leave daily, Sun-

days excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road .....32 "

From Bellefontaine to Sandusky city by railroad .....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus.. 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35ly

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CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin. Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bounets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1847.




A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.




Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 *P. M. Lines run.*

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12¼ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., July 15, 1847. 41*1y

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.
SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

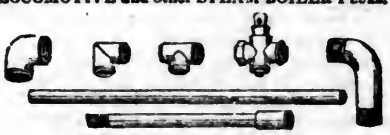
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

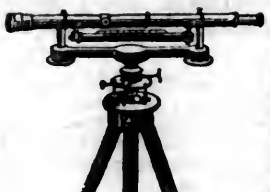
PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ed barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 7.] SATURDAY, FEBRUARY 12, 1848. [WHOLE No. 608, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, February 12, 1848.

St. Lawrence and Atlantic Railroad.

The St. Catharines Journal says that "the annual report of the company, at Montreal, for the construction of this line, as far as the frontier, has just been published. Experience has shown that flour from Chicago can be delivered in Montreal at 1s. 6d. per barrel, and it is expected that a similar sum will cover the expenses of delivery on ship-board at Portland—making 3s., or 60 cents, the entire cost from the furthest port on the upper lakes to the ocean, with but one transhipment, namely, at Montreal: the arrangements at the Atlantic terminus being such as to allow of the cars discharging into vessels lying at the wharves. This company have 34 miles definitely located from Portland, and 70 approximately. In acquiring the right of way for the first 30 miles, they had to settle with 304 claimants. The first division of 16 miles, from the St. Lawrence to the Richelieu, will be in operation in August, and the rails are now on hand. The bridge over the latter river is nearly completed, and the road for 5 miles east thereof is graded."

We have not seen the report here referred to by the St. Catharines Journal—and shall therefore be obliged to any one who will send us a copy.—[ED. R. R. JOURNAL.] It is received.

Great Western Railway.

"His honor, the mayor," says the Hamilton Spectator, "returned from Albany on Thursday last, whither he had gone, in company with Sir Allan McNab and Peter Carroll, Esq., in order to attend a meeting of eminent railroad contractors, who desired to undertake the construction of the Great Western line. We understand that the whole has now been contracted for by parties well acquainted with the work, and who have the benefit of long experience in constructing railroads. We have the satisfaction to state, in addition, that the contractors have taken stock for one-third the amount of their estimates. This intelligence will be received with great satisfaction in the west, and by all who take an interest in this most important work."

Champlain and St. Lawrence Railroad.

"The directors of this railroad—till within the last few months, the only one in the province—have issued their semi-annual report. It shows an increase of business, and a large outlay in the re-construction of the road; and notwithstanding this expenditure, a dividend of £4 per share is recommended. 4¼ miles have been relaid with heavy T rail—2 miles for which the rail is on hand, will be completed in the spring—and 800 tons more of rail are expected by the spring vessels, for the completion of the whole route."

Erie Canal Enlargement.

The Utica Gazette says that "the work of enlargement is going on rapidly west of the city. Beyond the guard lock, labor asserts its dignity with a force of 200 or 300 sons of the Emerald Isle. There are a great many Dutch in West Utica out of employment, who look with hungry eyes at the progress of the embankment, but are unable to obtain situations. We would be glad to see them all busy, for they play a grand hand when spades are trumps. If Hollanders and Dutch, who were all redeemed from clam beds by persevering damming, are not able to show us how to keep water within certain limits, then we surrender our faith in the faithlessness of quagmires and quicksands."

Had this work been continued, and the amount paid to contractors as damages for the suspension, together with the net receipts since that time, been appropriated to the enlargement, the work might now have been nearly completed—but the stop policy prevailed, notwithstanding the wiser counsels of able men who saw and predicted what has now become matter of history. It is to be hoped that the present legislature will adopt such measures as will ensure the early completion of the canal, inasmuch as so large an amount of money has been expended upon it, which will be mainly lost unless the whole enlargement is completed.

Providence and Worcester Railroad.

The New York Herald, in which we frequently find interesting railroad statistics, says that "the first report of the Providence and Worcester railroad company made to the Legislature of Massachusetts and Rhode Island on the 31st of January, 1848, presents the annexed statement of the expenditures on account of construction and operation, and the receipts up to that date.

PROVIDENCE AND WORCESTER RAILROAD.

Expenditures for engineering, graduation, superintendence, depots, lands, etc., in 1847	$1,226,223 39	
Expenditures prior to Dec. 31, 1846..	532,531 60	
		1,758,754 99
Received from Boston and Providence railroad for construction of this road from Central Falls to Providence...		205,000 00
Total cost of road and equipments to December 31, 1847		1,553,754 99
Receipts.		
From rents for 1847		1,631 40
" passengers since 20th Oct., 1847		21,128 43
" freight since 20th Oct., 1847....		9,273 31
Total receipts, 2 months 10 days.....		32,033 14
The current expenses for running the cars, repairs of road, locomotives, etc		9,841 63
Net earnings, 2 months 10 days.....		22,191 51

The receipts for January were $17,600, which, if an average, is equal to $211,200 for the year, but we by no means consider January a fair average month for the year, and our estimate for 1848, upon the basis of the receipts for the first month, is at least $250,000. If the expenses are equal to fifty per cent. of the gross income, there will be a balance left of $125,000, equal to a dividend of 8 per cent. on the aggregate cost of the road. This, for the first year, will be extraordinary, and must satisfy the most sanguine friend of the company. The location of this road is as favorable as that of any other in the country, and it is a matter of much astonishment, that it has been left unoccupied so long. Railroads have a wonderful influence upon each other, they sustain and support themselves by the business they create. It appears impossible to get up competition lines; and the construction of roads in the immediate vicinity of others, aids and increases their productiveness instead of cutting into them, as generally supposed when contemplated."

Influence of Railway Regularity on the Habits of the People.

We have ere now expressed a conviction that the constant observance of these iron lines—straight, parallel, and precise—must induce greater precision of thought, and regularity of conduct. As we then observed, the tendency of the whole railway system is the same, and we have no hesitation in now saying, that this effect has been produced already to a great extent. The exactness usually observed in the arrival and departure of the trains—the calculation of the time by minutes, not half hours—has conduced to punctuality, and to a consideration of the worth of time.—"Builder."

Niagara Suspension Bridge.

We have this day, says a correspondent of the Buffalo Courier under date of 31st January, "joined Canada with the United States by a cord, half an inch in diameter, and are making preparations to extend a foot bridge across by the 1st of June. Our shanties are erected, and we have a large number of men at work. Everything looks like going ahead. Major Fisk and men are very busy in laying out the town of Bellevue, and are making arrangements for putting up a large hotel. The situation is a beautiful one, and bids fair in the opinion of many to surpass the town at the Falls."

This gigantic work is now fairly commenced, and it will add another attraction for visiters to the Falls —and especially so during the ensuing season —while the works are progressing. It is not unfrequently the case that the wonder, *how* a difficult work was accomplished, is greater than at the work itself; and it will be especially so in this case, where a bridge of sufficient capacity to sustain a *locomotive* and train of *loaded cars*, is to be thrown over a chasm 200 feet deep and 750 feet wide, with a deep and rapid river beneath. The first structure is, we understand, to be a foot bridge for the purpose, we suppose, of aiding in the construction of the main work —and the man who first makes the passage of this mighty river, on this apparently frail structure, may consider it an era in his life, and worth telling of to his children and others.

American Iron.--New Puddling Furnace.

Establishments of this kind will be constantly starting up in various parts of the country, and by degrees our rich ores, in every part of the country will become sources of industry and of wealth.

The North Adams Transcript says that the puddling furnace which has been in course of erection in this village by our enterprising townsmen, Gen. Jabez Hall and I. C. Thayer, Esq., commenced operation in the making of wrought iron, last week. The furnace, which was built under the direction of Mr. J. Burgess, an Englishman, but who has worked in several other countries, is said to be one of the best constructed in the country. Everything thus far seems to work to a charm, and the success is beyond the most sanguine expectation of the projectors. The iron made is said to be of the best quality and of a toughness sufficient to draw into wire. The shrink in the iron in the process of puddling is comparatively small; a lot of two and a half tons weighed the other day before puddling, shrunk only 204 lbs. in the operation, while the usual allowance for shrink on the same quantity, we are told, is about 600 lbs.

The furnace, which has but one stack, turns out about two tons of iron per day. It is in contemplation to build another stack next season. We hail this enterprise as another important accession to the business of our village. Another season will probably witness the erection of a mill for drawing and rolling iron. We have the stock for these enterprises right in our midst, and energy and enterprise to push them ahead. With the sources of wealth which Adams has within herself, and the energy of its citizens in developing them, it will yet be one of the greatest, as it already is one of the most enterprising business towns in the country.

Columbia & Philadelphia Railroad Report for 1847.

We have, accidentally, got hold of a copy of the annual report of the superintendent of motive power on this road. It gives a full, and, under the circumstances, satisfactory account of the operations of this important line; showing that its business is increasing at a very fair rate.

The increase in the number of passengers has been 7,503—of freight 94,699 tons, and of receipts for motive power $48,844 72. The receipts for motive power were $299,602 62
And for railroad tolls 268,047 58

Working 567,650 20
And the total expenses were 255,241 00

Net profits 312,409 20

At the date of the last report there were 39 locomotives on this road of 80 miles—or nearly one engine to *two miles* of road—and there are now the same number—all except *two*, in good running order—two new ones having been put on, and two of the old ones having been sent to the Portage road. The original cost of these engines was $294,218, and their present estimated value is $188,500.

This report only refers to the *Columbia* road—and we presume there is another in relation to the Portage road—which we should like to see. If we do get a copy we shall give the more important parts of them in the Journal.

Railways and Christmas Holidays.

Under the head of "Gossip," the editor of the London Railway Chronicle often gives some of the most powerful arguments in favor of railways that we meet with any where. Sometimes a single *fact* has more influence than a column of arguments. In his paper of first of January he gives the following:

How many happy MEETINGS AND GREETINGS the facilities of railways provoke at Christmas, and all festivals! A correspondent from Sheffield writes to say, that that busy town was nearly emptied of its mechanics on the morning of Christmas day. In London multitudes availed themselves of the opportunities afforded on the several lines, to proceed by train, and spend a few days with their friends. Double journey tickets on the London and North-Western, Great Western, South-Western, and South-Eastern, etc., were issued and made available. On the South-Eastern and Dover special trains were provided.

CHRISTMAS FESTIVITIES, so far from declining, are rapidly extending—thanks to those increased facilities of railway locomotion—cheapness and celerity. It is stated that the parcel traffic on the various railways during the week has been enormous. On Christmas eve there arrived by every train such a quantity of hampers, containing poultry and other provisions for the great feast, that special arrangements were necessary to prevent confusion and loss. At the terminus of the Eastern Counties, the great estuary for Norfolk turkeys, a large area in front of the station was covered in for the protection of the up goods, and another adjoining the down line for those packages sent from London. By this line, during two days, about 4,000 packages have arrived from the country, and about 2,000 have been forwarded from London. The interchange of presents and the transit of Christmas fare in the metropolis, have been as great as from the provinces. The business done by the London parcels delivery company has been unusually great. During the last three days there have passed through the office of that establishment upwards of 23,000 parcels, 14,000 of which, mostly consisting of eatables, were received and delivered on the 23d ult.

The increase of our trade has rapidly developed itself since the introduction and extended use of railways in Great Britain. It appears, from official returns just issued, that in 1827 the imports were £44,908,173, and the exports £62,052,755; in 1832 the imports were below those of 1827, while in 1837, a period of five years only, they had increased to $54,762,285, and the exports to £85,779,598; and in the year just closed, the imports have risen to £75,-953,875, the exports to £148,584,507, showing indisputably that railways have been mainly instrumental in this rapid advance of the national prosperity.

Telegraphs in Holand.

Kings are not always willing that the *people* should avail themselves of the improvements of the age. So with the king of Holland in relation to the telegraph.

The Railway Chronicle says, "we have already mentioned the disposition of governments on the continent to meddle with the ELECTRIC TELEGRAPHS. We now hear that a recent ordinance of the king of Holland enacts, that no line of electric telegraph shall be established without the consent of the government; that the tariff for the transmission of intelligence shall be submitted to the ministers of the interior and finance; that intelligence from or to the government shall be transmitted in preference to that of private individuals; that in time of war the telegraphs shall be placed under the control of the navy and war departments; that when peculiar circumstances shall require it the service of telegraphs shall be provisionally or entirely suspended; that all the news received or sent by the telegraphs shall be inscribed on registers; and that, if eventually, the use of electric telegraphs shall be found to lessen the revenues of the post office, the proprietors of the telegraphs shall be obliged to pay an indemnity."

Girder Bridges on Railways.

The railway commissioners have, in reply to the inquiries of Sir E. Walker and Sir J. Jervis, as to whether, consequent on the late accident at the Dee bridge, on the Chester and Holyhead line, they intend to make any report on the conditions to be observed in the application of iron to railway structures, replied, "that the commissioners for inquiring into the conditions to be observed in the application of iron to railway structures, are engaged in preparing experiments to enable them to arrive at satisfactory conclusions on the subject of their inquiry before making their report. With respect to the girder bridges on the Trent Valley line, some of them are of similar construction, but of smaller dimensions than the Dee bridge at Chester; and these have all been strengthened to the satisfaction of the inspecting officer of the commissioners."—"Times."

Taylor's Improvements in Locomotive Engines and Railway Carriages,

The following description of Mr. Taylor's improvements are from the London Mechanics Magazine.

[Patent dated June 3, 1847. Patentee, Mr. George Taylor, of Holbeck, near Leeds. Specification enrolled Dec. 3, 1847.]

The patentee states that his invention consists—firstly, In certain improved arrangements of the steam cylinders of locomotive engines, and the parts which communicate the reciprocating motion of the pistons of the cylinders to the axle or axles of the driving wheels; which arrangements have for their object to concentrate the driving power of the actuated pistons, so as to communicate an even rotating motion to the driving wheels, or to distribute the moving power (before concentrating it,) in an even and uniform manner to one, two, or more pairs of wheels. The advantages which Mr. Taylor states he

believes to result from this part of his invention are, diminished wear and tear of the engine, and the attainment, with safety, of a greater degree of speed, in consequence of the decreased amount of oscilation of the locomotives. The construction is as follows:—Above the boiler, and near the smoke box, are placed, horizontally, and in juxtaposition, two steam cylinders of equal capacity, each having its piston furnished with cross heads, sliding in guides supported by the frame of the engine. The pistons are connected by rods to two cranks, which are attached on either side to a wheel having cogs or indentations on its periphery, and which gears into another wheel fastened on the centre of the axle of the driving wheels. The axle is placed above the boiler, and allows of the employment of driving wheels of larger diameter (say from 10 to 15 feet,) with even a diminished amount of oscilation, in consequence of the weight of the engine being brought near the line of rails.

All the wheels may be made to drive by being coupled in the ordinary manner.

In order that the cog wheels may work properly, and the bearing springs of the engine act freely, the guides, in which are supported the journals, or axle boxes of the driving wheels, are made slanting.

Two modifications of the mode of connecting the piston rods of the steam cylinders with the axles of the driving wheels, are specified by the patentee. The first consists in forming a slot in the centre of each of the piston rods, in which works a short vibrating link connected to a vertical frame on either side of the engine, which is made fast underneath the boiler by means of a pin, on which it vibrates; and in connecting each of these vibrating vertical frames by rods, as is usual with the bosses of the driving wheels; or in attaching one end of a connecting rod to the outside end of the cross head of the piston rod, and the other to the boss of the driving wheel.

Secondly, This invention has reference to the construction of an apparatus applicable to the locomotive, tender, and carriages, which serves to retard the progress of the train when necessary, and to support, in the case of the breakage of an axle, the weight of the carriage. To effect this, two levers are made fast to the bottom of the carriage in such manner as to allow of their acting freely, and have each at the outer end a flanged skid placed directly over the line of rail. These skids have on the under surface blocks of hard wood, with the grain placed vertically, and are, moreover, connected by a strong spring. From the centre of this spring rises a vertical shaft, consisting of two pieces joined by a threaded connection, whereby it can be lengthened or shortened, as required. The top of this shaft is forked, and has between the prongs at top and bottom, two anti-friction rollers. Between these rollers is a cam, fastened to a horizontal rod, which is made to rotate by apparatus brought under the control of the driver and guards, after my ordinary or well known means. When the longest radius of the cam is brought to bear upon the lower anti-friction roller, by means of the rotating of the horizontal shaft, it follows that the vertical shaft is forced downwards, and the flange skids thereby depressed on to the line of rail, which they bite, and thus retard the progress of the train. The flanges serve to retain the carriages on the line of rails, and the skids to support the carriage in the case of breakage of an axle; but, in order that the vertical shaft may be relieved from the weight of the carriage, stops are inserted in the lower part thereof, at the most convenient point, against which the skids catch.

Thirdly, The patentee proposes to divide the tender horizontally into two parts, using the upper or open portion for coals, and the lower to contain the water; and to pass the axle of the wheels through the water, or above it, in order that the weight of the tender, as in the case of the locomotive, before described, may be brought nearer the rails.

Fourthly, To employ axles or railway carriages composed of two pieces, one solid and the other tubular, to slide over it; one of a pair of wheels being attached to each piece, so that they may revolve independently of each other.

Animal Power.

We find the following article on "animal power" in Herapath's Journal, taken from a work by the same writer. It may be useful to some of our readers—and we therefore give it a place in the Journal.

The average weight of a cart horse is 1,040 lbs., of an ordinary horse 880 lbs., and of a man 150 lbs. When exerting themselves at a dead pull, all these animals lean in an angle of 63½° to the horizon, making the pull equal to one half their weight. So that at a dead pull a cart horse wil exert a horizontal force of 520 lbs., an ordinary horse of 440 lbs., a man of 65 lbs.—These numbers should be the values of R in each of the above animals. When they are doing their best the pull is

$$\frac{R}{V^2}(V-\frac{1}{3}V)^2=\frac{4}{9}R$$

For a cart horse this is 231 lbs., for a common horse 195½, and for a man 33½ lbs.

[*Note.*—The following weights of animals were furnished to me by a gentleman who had been largely interested in farming for a great portion of his life, except the weight of man, which I obtained somewhere else:

Animals.	Stone of 8 lbs.	In lbs.
Cow	from 80 to 100	640 to 800
Fat ox	" 100 " 120	800 " 960
Calf	" 14 " 17	112 " 136
Sheep	" 8 " 12	64 " 96
Pig	" 11 " 16	88 " 148
Lamb	" 4 " 5	32 " 40
Cart horse	mean 130	1,040
Ordinary do.	" 110	880
Average do	" 120	960
Mule	from 70 to 80	560 to 640
Man	mean 18¾	150]

Occasionally, and for short periods, animals will exert much greater forces than these, particularly if the ground be good, to afford them good foothold.

Generally the dead pull dees not depend on the muscular power, but on the weight of the animal, unless under favorable circumstances of good foothold.

Experiments in a mill, and towing a boat on a canal, as we have observed, give 186⅔ lbs. for the pull of a horse, and the estimate of a man at a dead pull is 70 lbs., not in either case much different from the above. The difference between us and the ordinary estimates is, that we do not believe an ordinary draught horse will walk more than 5 to 5½ miles an hour, if so much. Anything of a man can walk nearly 5 miles an hour unloaded, but he could not continue above 4 for several hours together. At this estimate a horse power would be 31,541 lbs., raised one foot high in a minute, and a man power 3,911 lbs., which is only about an eighth of the horse power, though at a dead pull the force of a man is about a sixth of that of a horse.

These are what may be called the steady or walking economical powers of animals; but there are other powers belonging to other paces. For instance, in the old stage coaches I have been assured that they often carried 2 tons of passengers and luggage besides the coach, which was 16 to 18 cwt. But suppose the whole was only 2 tons, coach and all; with this the average rate was at the least 10 miles an hour when travelling, but more generally 10¾. At this speed, the horses could only travel 10 miles a day, and rest every fourth or fifth day.

What the draught of these coaches was I have never heard, but I believe good spring carriages duly loaded are drawn with about half the force of carriages without springs. Many years ago I read of experiments to that effect, if my memory does not deceive me. Therefore, the draught of 2 tons being a 24th of the weight; each horse would pull nearly 37 lbs. Now, if we consider the utmost speed a horse could trot for an hour, without any weight on him, to be 15 miles, about which it is—for a good horse will trot 13 miles an hour with a man on his back—we shall have, by putting $v=\frac{2}{3}V$, the force equal to 1 9th of the dead pull R, or

$$\frac{440}{9}=49 \text{ lbs.},$$

which is only 2 lbs. above our estimate, from stage coach experience.

It would seem, therefore, that the theorem answers for trotting paces as well as for walking, the dead pull being the same. Careful experiments, however, are wanting on this subject—at least I have not met with any—and I am obliged to use the information which has been given me.

Western, Mass., Railroad.

Thirteenth Annual Report.

We have received the thirteenth annual report of this company. It shows a highly favorable state of affairs. The receipts in 1847 exceed those of '46 by more than $350,000—and the increase exceeded our most sanguine expectations—yet they would have been still greater if the company had had working stock enough on the road. It will be seen by this report, however, that they intend to remedy that difficulty next year—by ordering a large number of locomotives and cars; yet we should not be surprised to find that, even with this large addition to their cars and engines, they could not meet all the demands

upon them. It seems to us that they might as well have divided five as four per cent., at the last half-yearly dividend; yet we are not sure but it was good policy to retain all over eight per cent. per annum, until the second track is completed, and the work fully stocked to meet any demand upon it for transportation.

Thirteenth Annual Report of the Directors of the Western Railroad Corporation to the Stockholders.—January, 1848.

The directors of the Western railroad corporation submit this, their thirteenth annual report of the business of the road, and their doings during the financial year, which terminated on the 30th day of November, 1847.

TRANSPORTATION DEPARTMENT.

The balance to the credit of the contingent fund, at the commencement of the year, was	$104,011 99	
The income of the road during the year has been:		
From passengers	$502,321 92	
" freight	785,345 66	
" mails, rents, etc	37,668 48	
		1,325,336 06
Expenses:		
For road repairs	196,548 63	
" engine repairs	52,050 12	
" car repairs	72,061 03	
" buildings, etc	34,630 86	
" transportation expenses	280,623 35	
" general expenses	40,775 76	676,689 75
Net earnings		648,646 31
From which deduct interest paid on loan	264,854 53	
One dividend of 4 per cent. on 35,500 shares	$142,000	
One do. on 40,000	160,000	
	302,000 00	
		566,854 53
Leaving a surplus for the year, of		81,791 78
And a total surplus, Nov. 30th, 1847		$185,803 77

By a comparison of the receipts and expenses of the past year, with the receipts and expenses of former years, it will appear that during the past year the per centage of the gross income expended has been greater than it has been in previous years; yet, by a careful examination, it will be found that a large amount has been charged to the current expenses of the past year, which properly belonged to the expenses of previous years.—For instance, new rails, to the amount of $33,000, have been used and charged to expenses during the year; in addition to this, $35,000 has been charged to expenses for deterioration of rails, which has been credited to a deterioration account; to be held in reserve against the time, which is near at hand, when portions of the present track will require new rails. For a similar reason, $2,000 has been charged to expenses for depreciation of fences. About 1,545 feet of new bridges, for a double track, are now in process of construction, and are nearly completed, and $11,591 87, which is about one-third of the cost of constructing these new bridges, has been charged to the expenses of the year—and the balance of the cost has been, or will be, charged to the construction of the second track. The sum of $6,000 of the expenditure made for the improvement of the depots at Worcester, Brookfield and Palmer, has also been charged to expenses. Eighty-five thousand new sleepers have been put down during the year, which is forty-five thousand more than the average number required for each year, and the entire cost has been charged to the current expenses; the cost of forty-five thousand laid down amounting to $22,500, and properly belonging to the expenses of previous years. The foregoing items of expenditure amount to $110,091 87, and must be regarded as an assessment for the gradual deterioration of the road since it was first opened for use. After deducting these items, it will be found that the expenses compare favorably with those of former years—or with those of any other railroad upon which the business transacted is of a like nature. It has been the policy of the present directors to charge to the expenses of each year such sums as in their opinion would ultimately make up an aggregate amount sufficient to cover all depreciation of the road and its equipment since the road was opened for use.

During the year, thirty new freight, and two new passenger cars—all costing $15,100; and two new engines, which cost $16,000—less $4,000 for one small Lowell engine sold—have been put upon the road, and charged to the current expenses.

Much labor has also been bestowed upon the improvement of the roadbed, by widening and deepening the ditches, and by substituting good material under the track where the old was bad; and it is believed that the road and its equipment are now in much better condition than at the commencement of the year.

Ten 20 ton engines, and 100 freight cars have been added to the equipment of the road during the year, yet the corporation, as well as the public, have suffered much inconvenience during a large portion of the year for the want of a larger supply; and the directors have now ordered 400 cars and 28 twenty-ton engines, most of which will be upon the road as early as March next, when, it is believed, the corporation will be able to do all the business which may offer, promptly, and to the satisfaction of the public.

During the year, the passenger trains have run regularly and without any serious accident. No passenger has been injured. The freight trains have been less fortunate. Several accidents have occurred to these trains, whereby several brakemen have lost their lives, and a number have been badly injured. Two of the men employed upon the road have lost their lives within the past year by coming in contact with the bridges over the track. In previous years there has been a larger loss of life from this cause. The attention of the directors has been called to the adoption of measures to prevent this class of accidents, and they consider it very desirable that every bridge over the track by which brakemen are exposed to accident should be raised to a sufficient height; which they hope to accomplish, if the consent of the proper authorities can be obtained, and if the work can be accomplished at a reasonable expense.

The increase of business for the past year, as compared with the previous year, has been 57 per cent. on freight, and 21 per cent. on passengers, making an average gain of 42 per cent. on the gross receipts.

The annexed tables exhibit as follows:

A.—*The amount received from all sources since the road was opened.*

	Passengers.	Merchandise.	Mails, etc.	Total.	Expenses.	Balance of receipts.	Miles run.
3 months in 1839	$13,472 94	$4,136 21		$17,609 15	$14,380 64	$3,228 51	
1840	70,820 79	38,359 78	$3,166 82	112,347 39	62,071 72	50,275 67	94,405
1841	113,841 85	61,467 14	4,000 00	182,308 99	132,501 45	49,807 54	160,106
*1842	266,446 83	226,674 61	19,566 84	512,688 28	266,619 30	246,068 98	397,295
1843	275,139 64	275,696 19	23,046 68	573,882 51	303,973 06	269,909 45	441,608½
1844	358,694 00	371,131 84	23,926 88	753,752 72	314,074 20	439,678 52	499,968
1845	366,753 02	420,717 30	26,009 83	813,480 15	370,621 25	442,858 90	530,201
11 months in 1846	389,861 42	459,365 18	29,191 29	878,417 89	412,679 80	465,738 09	573,956
1847	502,321 92	785,345 66	37,668 48	1,325,336 06	676,689 75	648,646 31	819,010

B.—*Number of through and way passengers.*

	Through passengers.			Way passengers.			Total	Total	Grand
	1st class.	Second.	Total.	1st class.	Second.	Total	1st class.	second.	total.
1842	15,890	2,680½	18,570½	148,500	23,366	171,866	164,390	26,046½	190,436½
1843	19,957	6,608	26,595	140,425	33,945½	174,370½	160,412	40,553½	200,965½
1844	17,016½	7,314	24,330½	140,868½	55,058½	195,927	157 885	62,372½	220,257½
1845	13,401½	5,791	19,192½	144,723	59,717½	204,440½	158,124½	65,508½	223,633
11 months in 1846	21,033	8,799½	29,832½	165,196	70,635½	235,831½	186,229	79,435	265,664
1847	23,678	10,621½	34,299½	264,441½	89,567	354,011½	288,122½	100,188½	388,311
	111,006	41,814½	152,820½	1,004,157	332,290	1,336,447	1,115,163	374,101½	1,489,267½

C.—*Number of tons transported.*

	Going westward.			Going eastward.			Total number of tons moved.	Equivalent No. of tons carried one mile.	Equi. No of tons carried over the whole road.
	Through from Boston to Albany.	All other tonnage.	Total going west.	Through from Albany to Boston	All other tonnage.	Total going east.			
11m. 1846	8,358	40,251	48,609	36,403	81,389	117,785	166,391	15,748,223	100,950
1847	11,962	56,554	68,516	88,438	117,737	206,175	274,691	28,037,628	179,728

Miles run by locomotive engines.

	Passenger trains.	Freight trains.	Gravel trains, etc.	Total No miles run.
11 months in 1846	215,336	313,259	45,382	573,956
1847	236,677	513,772	68,961	819,010

* First year of opening through to Albany.

D.—*Number of barrels flour transported from Albany and Troy, included in the tonnage transported.*

	To Boston.	To other stations.	Total No. bbls.
1842....	85,986	86,124	172,110
1843....	123,366	120,873	244,239
1844....	154,413	142,990	297,403
1845....	181,796½	146,386½	328,183
11 mos. in 1846....	209,634	151,711	361,345
1847....	513,851	188,649	702,500

E.—*Schedule of engines and cars belonging to Western railroad corporation, November 30th, 1847.*

Engines.		Built by
11	10-ton passenger,	Locks and Canals Co., Lowell.
5	15 "	Hinkley & Drury, Boston.
1	15 "	W. Norris & Co. Philadelphia.
4	22-ton freight,	R. Winans, Baltimore.
3	20 "	Locks and Canals Co., Lowell.
16	20 "	Hinkley & Drury, Boston.
1	16 "	" "
1	20 "	W. Norris & Co. Philadelphia.
5	20 "	Baldwin & Whitney, "
2	10 "	Ross Winans, Baltimore.
49		

Cars.			
23	8-wheeled passenger,	1st class.	
7	4 "	"	"
4	8 "	"	2d class.
7	8 "	"	baggage.
2	4 "	"	"
4	8 "	"	crate.
2	4 "	"	"
13	baggage crates.		
493	8-wheeled covered freight.		
70	8 "	platform.	
100	4 "	covered.	
126	gravel and dirt.		
46	hand.		

CONSTRUCTION.

During the past year the capital has been increased, by creating six thousand new shares—which have been disposed of according to law.

The total means provided for construction and equipment of the road, and for payments into the sinking funds, have been—

40,000 shares of the capital stock at $100 each				$4,000,000 00
£135,000 sterling bonds, payable with interest in London at 5 per ct.			April 1, 1868.	
337,500	do.	do.	Oct. 1, 1868.	
90,000	do.	do.	Oct. 1, 1869.	
180,000	do.	do.	April 1, 1870.	
157,400	do.	do.	April 1, 1871.	
£899,900 average due July 5, 1869, at $4 80				4,319,520 00
Albany city bonds, payable with interest at 6 pr ct., July 1, '66...250,000				
Do.	do.	July 1, '70...300,000		
Do.	do.	July 1, '71...200,000		
Do.	do.	July 1, '76...250,000		1,000,000 00
Total nominal means provided				9,319,520 00
Am't pd. Albany sink. fund. 100,000 00				
" Massachusetts " 146,467 52				
" and due sink. funds Nov. 30, '47, from shares. 208,944 44				
Total cost of road as pr tab. 8,769,473 77				9,224,885 73
				$84,634 27

It will be seen by reference to the annexed table marked F, that $583,685 35 has been added to the cost of construction and equipment of the road during the year, which amount has been expended for the construction of about 12 miles of second track, for land, for engines and cars, for new bridges for new depots, and miscellaneous expenses, chargeable to construction.

During the year large and commodious depots have been erected at West Brookfield and at Palmer.

Land has been purchased at Greenbush, on which it is intended to erect, in the course of the ensuing season, a freight depot 750 ft. long by 100 ft. wide, with such conveniences for discharging boats as will secure despatch and give every reasonable accommodation to the public.

The income of the road has been such the past year, as to demonstrate, in the opinion of the directors, that if the capital be increased to an amount sufficient for the construction of 50 miles of second track within the ensuing year, stockholders will be quite sure of receiving 8 per cent. on their shares. The directors have accordingly voted to construct fifty miles of second track in the course of the year. They have also ordered 400 freight cars, and 28 twenty gross ton engines. For these purposes, and for new depots and other equipments required to accommodate the increasing business of the road, and chargeable to construction, the amount of capital which has been ordered, payable the 1st of March, of June, and of September, will not be sufficient.

It is the opinion of the directors, that the second track should be constructed as rapidly as the earnings of the road will permit of the semi-annual payment of 4 per cent. upon the capital, until it reaches from Worcester to Albany, and they believe that the time of its completion cannot, in justice to the stockholders and to the public be prolonged beyond such a limit. Until this work is accomplished the equipment of the road completed and the road made as secure as possible against obstruction by the erection of substantial fences, it would be deemed inexpedient by the present directors to declare larger dividends than 4 per cent. semi-annually.

It has been the policy of the present board not to declare a dividend which cannot be sustained for all subsequent time. In accordance with these views, application has been made to the legislature for authority to increase the capital stock to the amount of $3,000,000, which, if granted, should, in the opinion of the directors, be applied as fast as it may be issued, consistently with the policy before referred to—to the construction of a second track, and to other purposes chargeable to construction—to payments into the sinking funds and to the purchase of the sterling scrip of Massachusetts.

SINKING FUNDS.

The Massachusetts sinking fund, as per last report, was, Nov. 30, 1846	$349,713 54	
Since added, by payment of $40,000, and the accumulation of assets	61,158 85	
Total amount of Massachusetts fund, estimating the assets at cost		410,872 39
The Albany sinking fund, as per last report, was, Nov. 30, 1846	189,945 17	
Since added $10,000, and the accumulation of assets	21,729 70	
		211,674 87
Total value of both funds, Nov. 30, '47, estimating the assets at cost		622,547 26

We abridge the table showing the cost of the Western and Albany and West Stockbridge railroads—giving the totals of each, and of both, to November 30, 1847, in the following statement, marked F.

Heads of Expenditure.	Total Western railroad.	Total amount paid. A. & W. S. railroad.	Total cost of both roads.
Graduation and masonry	$3,249,776 76	$889,635 96	$4,324,455 43
Bridging	185,042 71		
Superstructure, including iron	1,190,372 12	293,726 65	1,484,098 77
Station buildings and fixtures	269,834 30	176,588 16	446,424 46
Land, land damages and fencing	286,008 71	210,122 99	496,131 70
Locomotives	485,659 19		485,659 19
Passenger and baggage cars	64,270 84		64,270 84
Merchandize cars	410,161 64		410,161 64
Engineering and other expenses	841,107 34	217,166 40	1,058,273 74
	6,982,233 11	1,787,240 16	8,769,473 77

The Pittsfield and North Adams railroad has been operated by the Western railroad corporation, by virtue of an indenture, the particulars of which have been previously reported.

The result of the first year's business, which ended November 30th last, does not show a very satisfactory result. The income of the road has been:

From passengers	$15,743 38	
From freight	10,005 56	
From rents, etc	206 00	
		25,974 94
Expenses:		
For road repairs	6,081 05	
For engine repairs	918 37	
For car repairs	90 10	
For building repairs	216 85	
For transportation expenses	9,982 57	
For general expenses	509 29	
		17,798 23
Net earnings		$8,176 71
Received from W. R. R. for interest		86 25
Charged to the trustees of the Pittsfield and North Adams guarantee fund for deficiency		17,728 04
		$25,991 00
Paid div. No. 1, to May 31	12,857 50	
" 2, to Nov. 30	13,133 50	
		25,991 00

It is gratifying to the directors, as it no doubt will be to the stockholders, that the business of the Western railroad corporation for the past year has been so prosperous, and they can see no reason why the same prosperity should not attend its future operations.

All of which is respectfully submitted.

Addison Gilmore, Edmund Dwight, Jonathan Chapman, John Howard, Josiah Stickney, Abraham H. Howland, Stephen Fairbanks, James Russell—*Directors.*

Boston, Jan. 20, 1848.

Vulcanized India Rubber Springs.

We have before referred to this subject in connection with Ray's improved truck, but were not then able to give a full explanation of them; we therefore give the following article from Herapath, of December 18th.

We have seen specimens of these springs; they appear to be simple, and complete. They are composed of alternate layers of vulcanized India-rubber rings and metallic plates; these are contained in two cylinders, one of which, when the spring is compressed, slides into the other. A bolt, connected with the head of the spring, passes through the centres of the rings, plates, and cylinders, so as to regulate the elasticity of the springs. The metallic plates are of the same diameter as the interior of the smaller cylinder, in which they are enclosed; but the vulcanized rings are not above two thirds the diameter of the plates. When pressure is applied to the springs, these rings gradually decrease in thickness, and increase in diameter, and, as the pressure is removed, the vulcanized rings decrease in diameter, and increase in thickness, until the pressure is removed, when they assume their original figure. They are considerably lighter, the elastic material not being more than one-tenth of the weight of steel springs of similar strength. The power and elasticity of the India rubber springs can be regulated with great facility by means of increasing or diminishing the thickness of the vulcanized rings, and also by augmenting or reducing the number of them in each spring. Thus, a spring containing 18 vulcanized rings of one inch in thickness, will be nearly twice the strength of a spring of the same length containing twelve rings one and a half inch in thickness, so that, by adopting any intermediate thickness, the springs can be adjusted to suit any given power or degree of elasticity. It is stated, that by the adaptation of these buffers to the carriages in a long train, that unpleasant jarring and shaking so generally experienced both in starting and stopping the train, will be greatly reduced, if not entirely prevented. The cost of these springs is stated to be 20 per cent. less than that of steel springs of equal power, and that, being more simple in construction, they are much less liable to get out of order. These springs, we are informed, have been successfully used for buffers to railway wagons and carriages, and in a vertical position for bearing springs to the bodies of carriages. Fourteen locomotive tenders have been fitted with these buffers and springs, and worked on the following railways; —The Eastern Counties, the York and Newcastle, the Midland, and the London and Birmingham. A few locomotives are now being fitted with them, and will be ready for trial by the end of the month. The buffers are so constructed, that they can be screwed to the frame work on the ends of the carriages and wagons, occupying no more room than the buffer and buffer rods now in use. Those for wagons project 14 inches, and have four rings; those for carriages project 20 inches, and have eight vulcanized rings each. The buffer springs are calculated to bear a pressure of from 8 to 10 tons, while those in ordinary use, we understand, do not usually exceed the power of three tons. An experiment made on one of those springs showed that, by dividing the whole distance compressed by a pressure of ten tons into 100 parts, the first half ton compressed 22 parts; the first ton 41 parts; the second ton 62 parts; the third ton 74 parts; the fourth ton 82 parts; the fifth ton 88 parts; the sixth ton 92 parts; the seventh ton 94 parts; the eighth ton 96 parts; the ninth ton 98 parts; and the tenth ton, of course, 100 parts. Thus it will be seen that the spring readily compresses with a comparatively light pressure. By screwing up the adjusting bolt, which passes through the centre of the spring, it may be made more or less sensitive to pressure. These springs are said to be far more pleasant to passengers than steel springs, having none of that vibratory motion so apparent in the latter. The machine for testing the strength of springs from one cwt. to ten tons, is very ingeniously contrived by means of a powerful screw acting upon levers, on the principle of the common steel yard. We are informed by the patentees, Messrs. Fuller and De Bergue, that they are now engaged in executing extensive orders for the North Staffordshire, East Lincolnshire, and other railway companies."

New York State Canals.

We find in the Albany Evening Journal the following comparative statement of the business of the New York canals for 1846 and 1847. It shows an astonishing increase of business. We intended to give, in contrast with this, a concise history of the rise and progress of the canal, which we found in an exchange paper, but it has been mislaid. Our object in publishing them in contrast, was to show how few among the most intelligent of any *present* period reason correctly to the future. What is now matter of history was deemed impossible, within our recollection; and the *impossible* of the present day will be matters of history a few years hence.

The editor of the Evening Journal says, "we have compiled from the records in the canal department, the following table, which shows the aggregate amount received from tolls, fines, and penalties, at each collector's office on the several canals in the State, during the years 1846 and 1847, and also the increase and diminution at each office."

ERIE CANAL.

Office.	1846.	1847.	Inc. or dec.
New York..	$39,213 12	$128,971 28 inc.	$89,758 16
Albany.....	259,072 93	351,839 32 "	92,766 39
West Troy..	305,583 04	312,612 33 "	7,029 29
Schenectady.	9,220 36	8,405 07 dec.	815 29
Fultonville..	15,010 51	14,119 08 "	891 43
Little Falls..	11,567 90	12,869 57 inc.	1,301 67
Utica.....	46,578 46	53,938 86 "	7,360 40
Rome	45,520 00	42,856 30 dec.	2,663 70
Syracuse....	87,787 19	98,733 55 inc.	10,946 36
Montezuma.	94,886 98	96,448 30 "	1,561 32
Lyons.....	21,063 01	19,934 99 dec.	1,128 02
Palmyra....	49,595 48	51,354 86 inc.	1,759 38
Rochester ...	197,303 87	223,862 75 "	26,558 88
Brockport...	11,396 40	13,602 86 "	2,216 46
Albion.....	50,682 54	66,293 65 "	15,611 11
Lockport	80,584 63	84,023 84 "	3,439 21
Black Rock..	83,929 26	133,502 50 "	49,573 24
Buffalo.....	763,683 02	1,216,700 96 "	453,017 94
Waterford...	3,349 61	3,916 74 "	567 13
Salina	20,773 56	20,624 21 dec.	149 35
Oswego.....	130,231 85	183,067 21 inc.	52,835 36
Geneva.....	45,376 65	54,695 80 "	9,319 15
Havana.....	8,212 16	6,753 46 dec.	1,458 70
Horse Heads.	30,533 72	32,918 03 inc.	2,414 31
Corning.....	19,999 36	26,973 05 "	6,973 69
Dresden.....	6,810 87	6,655 40 dec.	155 47
Penn-Yan ..	20,109 65	17,662 91 "	2,446 74
Oxford.....	4,703 81	5,838 89 inc.	1,335 08
Binghampton	5,791 87	5,101 21 dec.	690 66
Scottsville...	16,412 17	21,670 09 inc.	5,257 92
Dansville....	14,501 60	17,370 29 "	2,868 69
Total.....	2,499,275 58	3,333,347 36 inc.	834,071 78

CHAMPLAIN CANAL.

New York..	525 42	473 17 dec.	52 25
Albany.....	4,478 10	6,293 51 inc.	1,815 41
West Troy..	33,055 69	37,753 80 "	4,698 11
Waterf. & S.L	2,940 13	4,048 99 "	1,108 86
Schuylerville.	15,420 22	14,647 16 dec.	773 06
Whitehall...	51,675 11	56,881 17 inc.	5,206 06
Total	108,094 67	120,097 80 inc.	12,003 13

OSWEGO CANAL.

Salina.....	22 551 72	27,704 26 inc.	5,152 54
Oswego.....	35,633 71	50,229 08 "	14,595 37
Total.....	58,185 43	77,933 34 inc.	19,747 71

CAYUGA AND SENECA CANAL.

Montezuma..	9,204 81	10,077 87 inc.	873 06
Geneva.....	7,291 24	7,642 08 "	350 84
Havana.....	1,010 93	862 58 dec.	148 35
Horse Heads	4,024 37	4,320 80 inc.	296 43
Corning.....	2,640 55	3,304 31 "	673 76
Dresden.....	739 82	726 87 dec.	12 95
Penn-Yan...	2,380 39	1,991 44 "	388 95
Total.....	27,282 11	28,925 95 inc.	1,643 84

CHEMUNG CANAL

Havana.....	2,455 94	3,389 11 inc.	933 17
Horse Heads	5,066 96	5,905 84 "	838 88
Corning	5,980 04	7,382 75 "	1,402 21
Total.....	13,503 44	16,677 70 inc.	3,174 26

CROOKED LAKE CANAL.

Dresden.....	633 92	730 11 inc.	96 19
Penn-Yan...	1,278 89	1,216 39 dec.	62 50
Total.....	1,912 81	1,946 50 inc.	33 69

CHENANGO CANAL.

Utica.....	8,352 27	11,360 16 inc.	3,007 89
Hamilton....	2,997 35	4,158 47 "	1,161 12
Oxford.....	5,061 58	6,455 21 "	1,393 63
Binghampton	7,081 56	6,596 49 dec.	485 17
Total.....	23,492 86	28,570 33 inc.	5,077 47

GENESEE VALLEY CANAL.

Rochester....	5,806 28	6,952 32 inc.	1,146 04
Scottsville...	11,009 66	11,439 87 "	430 21
Dansville....	6,632 63	8,315 06 "	1,682 43
Total.....	23,448 57	26,707 25 inc.	3,258 68

ONEIDA LAKE CANAL

Higgins.....	542 80	624 74 inc.	81 94

SENECA RIVER TOWING PATH.

Salina.....	368 10	372 96 inc.	4 86

ONEIDA RIVER IMPROVEMENT.

Salina.....	14 52	176 07 inc.	161 55

The following table shows the gross amount of tolls, etc., collected on each canal, during the years 1846 and 1847, and also the gross increase:—

Canal	1846.	1847.	Increase.
Erie.....	2,499,275 58	3,333,347 36	834,071 78
Champlain....	108,094 67	120,097 80	12,003 13
Oswego.....	58,185 43	77,933 34	19,747 91
Cayuga & Sen.	27,282 11	28,925 95	1,643 84
Chemung.....	13,503 44	16,677 70	3,174 26
Crooked Lake.	1,912 81	1,946 50	33 69
Chenango.....	23,492 86	28,570 33	5,077 47
Genesee Valley	23,448 57	26,707 25	3,258 68
Oneida Lake..	542 80	624 74	81 94
Seneca River Towing-path	368 10	372 96	4 86
Oneida River Improvement	14 52	176 07	161 55
Total	2,756,120 89	3,635,380 00	879,259 11

The following table shows the aggregate amount received for tolls, etc., on all the canals in the State, from 1824 to 1848; also the yearly receipts from 1837 to 1848:—

Amounts collected from 1824 to 1837..	14,960,709 18
" " in 1838.....	1,590,911 07
" " 1839.....	1,616,382 02
" " 1840.....	1,775,747 57
" " 1841.....	2,034,882 82
" " 1842.....	1,749,.97 52
" " 1843.....	2,081,590 17
" " 1844.....	2,446,374 52
" " 1845.....	2,646,181 87
" " 1846.....	2,756,120 89
" " 1847.....	3,635,380 00
Total receipts.....	34,537,356 74

Greensville and Roanoke Railroad Report.

There are two roads from Hicks Ford—one to Gaston and Raleigh, and the other to Weldon and Wilmington, consequently its earnings are not sufficient to pay a dividend upon its stock, yet they are sufficient to meet current expenses, keep the road in repair, and gradually extinguish the debt—and of course it will ultimately pay dividends.

The tabular statement at the end of the report shows the comparative annual business of the road from its opening in 1838.

OFFICE GREENSVILLE AND ROANOKE R. R. CO.
Petersburg, November 10th, 1847.

JAMES BROWN, JR., Esq., *Second Auditor.*

SIR:—I beg leave to enclose you a copy of the last annual report of the Greensville and Roanoke railroad company. I have added to it a table showing the financial condition of the company for every year the road has been opened.

I remain respectfully,
Your obedient servant,
H. D. BIRD, *Pres't.*

PROCEEDINGS OF THE STOCKHOLDERS.

At the annual meeting of the stockholders of the Greensville and Roanoke railroad company, held May 14th, 1847:

It being ascertained that there was a majority of the stock represented, either in person or by proxy, the meeting was organized by appointing FRANCIS E. RIVES, chairman, and A. G. M'ILWAINE, secretary.

The president presented and read the annual report of the board of directors, which on motion was ordered to be recorded.

On motion, it was

Resolved, That the president and directors be authorized to make a contract with the *Raleigh and Gaston* railroad company to allow that company to erect a warehouse on our land at *Gaston*, to be leased for such term as it may be used exclusively for the mutual benefit of the two roads.

The meeting then proceeded to the election of officers for the ensuing year; whereupon H D. BIRD was elected president, and *B H. May, John Bragg, Edmund Wilkins, Robert Leslie*, and *A. G. M'Ilwaine*, directors.

The meeting then adjourned.

FRANCIS E. RIVES, *Chairman.*
A. G. M'ILWAINE, *Secretary.*

REPORT OF THE BOARD OF DIRECTORS.

The board of directors respectfully submit the following report of the state of the affairs of the company, and the receipts and expenses of transportation for the twelve months ending May 1st, 1847.

Statement of the affairs of the Greensville and Roanoke Railroad Company May 1, 1847.

Capital paid in		$200,000 00
Debt: bonds to stockholders	20,202 93	
To individuals	3,716 21	
To Exchange bank	2,500 00	
		26,419 14
Profit and loss		60,903 48
		287,322 62
Cost of railroad		269,151 63
" new iron		14,960 81
Debts due the company		350 00
Cash		2,857 18
		287,322 62

Receipts and Expenses of Transportation for the 12 months ending May 1, 1847.

RECEIPTS.

Gross amount of freight		22,687 15
" passengers		7,175 95
" mail		2,000 00
Total receipts		31,863 10

EXPENSES.

Paid the Petersburg railroad comp'y for doing the transportation	12,815 05	
Paid salaries of president, treasurer, and overseer	1,160 00	
Paid hire and feeding and clothing of 11 hands engaged in repairs of road	1,167 98	
Paid for rails, sills, and keys, used for repairing road	6,311 22	
Paid for spikes for repairing road	128 50	
Paid for repairs of wharves, depots, & cranes at Gaston.	348 37	
Paid for insurance, etc	92 15	
Paid interest of debt	1,393 45	
		23,416 72
Net income of the 12 months		8,446 38

Out of this income was paid:

Reduction of debt	$3,618 12
For rails and sills on hand May 1, 1847	1,971 08
Leaving cash on hand	2,857 18
	8,446 38

Statement of the Officers, Agents, and number of hands in the Employ of the Company May 1st, 1847, with their Annual Cost.

President $500, treasurer $300, overseer $360	1,160 00
Hire and cost of 12 hands	1,292 00
	2,452 00

By order of the board of directors.

H. D. BIRD, *President.*

Comparative View of the Receipts, Expenses, etc., of the Greensville and Roanoke Railroad Company, from the opening of the Road to May 1, 1847.

	May 1, 1838.	May 1, 1839.	May 1, 1840.	May 1, 1841.	May 1, 1842.	May 1, 1843.	May 1, 1844.	May 1, 1845.	May 1, 1846	May 1, 1847.
Receipts.										
Freight	$15,276 83	$19,520 63	$21,936 22	$35,618 92	$28,580 25	$23,219 18	$19,918 14	$20,180 55	$19,734 05	22,687 15
Passengers	4,500 48	7,478 85	6,956 23	6,703 89	6,513 06	5,091 57	4,194 47	4,388 39	5,620 39	7,175 95
Mail		1,180 00	1,352 41	1,000 00	845 40	846 40	557 02	800 00	2,000 00	2,000 00
Total	19,867 31	28,179 48	30,144 86	43,322 81	35,938 74	29,146 15	24,669 63	25,368 94	27,364 04	31,863 10
Expenses.										
Paid Petersburg railroad company.	10,490 32	11,939 37	13,084 15	20,044 09	16,461 16	13,301 78	11,635 74	11,953 08	12,743 78	12,815 05
Repairs of road, etc	7,967 51	6,153 10	7,046 69	8,081 44	10,098 80	8,270 67	5,562 22	4,607 54	5,034 80	9,208 22
Interest account	2,169 48	3,769 66	3,416 25	3,738 12	2,407 61	2,009 95	2,847 32	2,673 46	2,077 98	1,393 45
Total	20,627 31	21,862 13	23,547 09	31,863 65	28,957 57	23,582 40	20,045 28	19,294 08	19,856 56	23,416 72
Net income		6,317 35	6,597 77	11,450 16	6,981 17	5,563 75	4,624 35	6,074 86	7,507 48	8,446 38
State of the debt.										
To stockholders	30,693 02	35,293 02	35,293 02	34,317 52	32,017 52	27,992 52	23,679 05	23,029 05	23,029 05	20,202 93
" Petersburg railroad company	5,895 69	14,884 97	16,127 43	8,392 48	4,659 71	26,523 95	14,924 21	9,395 60	2,558 12	
" banks	12,000 00	6,500 00	3,000 00	1,000 00	500 00		4,000 00	4,000 00	3,500 00	2,500 00
" individuals	19,850 68	6,265 85	2,277 27	1,545 32	1,597 00	1,736 54	1,016 31	1,120 09	950 06	859 03
Total	68,439 39	62,943 84	56,697 72	45,255 32	38,774 23	56,253 01	43,619 60	37,544 74	30,037 26	23,561 96

N.B. The transportation of the road has always been done by the Petersburg railroad company. They furnish the engines and cars, and agents, and labor at depots, and receive two fifths of the gross receipts for doing it. For several years they were paid one half the freight and mail, and one third the travel.

The debt was increased May 1, 1843, by the purchase of new iron to relay the track.

This road is 21 miles long; fare $1, second class 50 cts.

Precious Metals.

The London Mining Journal of 18th December says that "the arrivals of bullion and specie during the past week have been on a very large scale, not only from Hamburgh, Rotterdam, and the United States of America, and Culloa, but even from Sydney, New South Wales, and Australia, amounting to upwards of £1,500,000 in gold and silver, partly on private account, and to the bank of England, whose coffers are now well stored with the precious metals to the amount of nearly £13,000,000 sterling, so that money is not wanting in the city. A considerable consignment of gold is expected by the next packet from Hamburgh and from Russia, to be invested in the funds and the new Belgian loan, which the house of Rothschild is stated to be the contractors of. The quantity of gold and silver at the disposal of the Emperor Nicholas, of Russia, exceeds £10,000,000; and the Austrian treasury has at its disposal a sum of 50,000,000 florins (about £6,000,000) in gold and silver bars, which is chiefly the return of the success that the State copper mines have yielded during the last few years. It is a curious anomaly, but still a fact—Northern Europe is the gold mine of the globe; and that, notwithstanding all the explorations and speculations in South America, this precious ore is found in only a limited portion of the new world; whilst silver and copper being the most predominant, many of the adventures by English companies have hitherto proved unsuccessful, in consequence of working old, or exhausted mines of the Spaniards, instead of trying new veins, which are well known to exist, particularly in Chili, which is rich in minerals of every description, and only requires the enterprising energy of Englishmen to work. The facilities afforded to foreign adventurers by the president of this flourishing republic to mining undertaking, and the projected establishing of the seat of government at Valparaiso, the great commercial port on the south-western coast of the southern hemisphere, will have a most beneficial tendency to enhance, not only mining enterprise, but the prosperity of the country, and those who may embark in its common wealth."

Fitchburg Railroad Report.

The annual report of this company shows the business of it for only *eleven* months—as the period for making reports and dividends was changed, at the last session of the legislature, from 1st February, to 1st January—consequently, it is hardly fair to judge of it by comparing 1847 with the previous year, without making allowance for the deficiency of *one month's* receipts; yet, notwithstanding the short time, the receipts for 1847 exceed those of 1846

On passengers	$27,156 15
On freight	45,735 59
On mails, rents, etc	9,522 63
Making the amount of	$82,414 37

The total cost of the road, as per report to the legislature for the year 1846, was $1,875,318 92—and by this report it is given as 2,116,100. The amount of dividends for the year paid is 193,975; showing a state of prosperity highly satisfactory, no doubt, to the stockholders. They may however look forward to a large increase in their business when they shall have completed their branches, but more especially when the *Cheshire* railroad, through Keene, N. H., and the line up the valley of the Connecticut river, and the *Rutland* road from Bellows Falls to Burlington, Vt., shall—as they soon will—be completed. Its *feeders* will, many times in length, exceed the main trunk, and of course its business and its profits will be largely increased.

Formerly the main depot of this road was over the river at Charlestown, and its freight and passen-

gers, from and to the city, had to be transported by carts and carriages—but they have now nearly completed a track across the river, and are erecting a splendid and spacious depot within the city, near that of the Boston and Maine road.

By this important improvement their cars will be as easy of access as those of any other road, and they will therefore have their full share of the short pleasure travel of the city.

At the time of the projection of this road it was, like the *Western* road, considered a visionary scheme but its almost unparalled success has shown the sagacity and good judgment of its early friends; prominent among whom were E. H. Derby, Esq., and P. P. F. DeGrand, Esq., to whom the people of Massachusetts, and especially the people of Boston, are more indebted for their railroad improvements, than they are aware of, or will ever repay.

The stock of this road commands a higher premium, we believe, than any other in Massachusetts, if not in the United States—with the exception of the Camden and Amboy.

REPORT.

The directors present to the stockholders the following statement of the company's affairs, the results of the business of the road, and their doings to January 1st, 1848.

Am't capital stock paid in, (old stock)	$2,116,100	00
Am't paid in on account of new stock created November 10, 1847, for the extension of the road into the city, double track, etc., on which interest is to be paid, till the whole is called in	119,800	00
Am't to credit of contingent fund	43,480	77
Total amount of receipts, including contingent fund, and exclusive of earnings to January, 1848	341,664	83
Am't charged to construction account, etc, to January 1, 1847, as per last annual report	1,907,313	19
Am't expended since, for additional depot accommodations, extending double track, etc., and completing the filling up of the company's flats in Charlestown, and extension into the city	323,624	32
Am't expended on account of five new engines, five new passenger cars and 126 new freight cars	72,956	83
Am't expended on Watertown branch since last report	111,692	89
Am't expended for further surveys on Feltonville branch	263	25

The company have on hand the following amount of available property:

Chair factory and land in Charlestown Mass. valued,	7,000	00
Two lots of land in Somerv. & Camb. "	2,000	00
House and land in Waltham "	2,000	00
Lot of land in Weston "	300	00
" Concord "	650	00
Store and land in Leominster "	1,500	00
Three houses and land in Fitchburg. "	6,000	00
Fuel and oil on hand, and paid for "	25,811	87
Stock on hand for repairs of cars, engines, etc., paid for "	14,096	99
Notes for land sold, secured by mortgage, etc	18,500	00
Balance treasurer's account	103,411	42
	$181,270	28
Verdict against Boston and Maine railroad	40,451	98

Earnings and expenses of the road, and branches, for eleven months, from February 1, 1847, (the time of declaring dividends being altered from February 1st and August 1st, to January 1st and July 1st):

EARNINGS.

Receipts from passengers, 11 months	155,894	24
" freight, "	197,511	59
Miscellaneous, rents, mails, etc	15,623	90
Total earnings	369,059	73

EXPENSES.

Fuel, oil, miscellaneous expenses, repairs, of engines and cars, repairs of road, etc.	144,630	00
Amount of earnings due Vermont and Massachusetts railroad, leased of them.	6,292	61
Estimated amount of earnings paid and due Lexington and West Cambridge railroad	6,429	57
Total expenses	157,360	18
Net earnings for 11 months, to January 1st, 1848, brought forward	211,699	55
August dividend on $1,763,400	88,170	
Jan. 1, 1848, div. on 2,116,100	105,805	
	193,975	00
Balance carried to credit of contingent fund for depreciation, etc	17,724	55

Amount of tonnage carried over the road for the years 1846 and 1847, showing the increase:

1847.

Total number of tons transported by the company upward	73,219
Downward	61,979
Total upward and downward	135,198
Ice	77,505
Bricks, etc	31,772
Total number of tons, including ice & bricks	244,476
Total number of tons per day, exclusive of ice and bricks, upwards	236¼
Downward	200
Upward and downward per day	436¼
Upward and downward per day, including ice and bricks	788¼

1846.

Total number of tons transported upward	47,752
Downward	41,105
Total tons, exclusive of ice and bricks	88,857
Ice	73,000
Bricks	39,308
Total tons, including ice and bricks	201,165
Total number of tons per day, exclusive of ice and bricks upward	147¼
Downward	132¼
Upward and downward per day	280
Upward and downward per day, including ice and bricks	612¼

Quantity of wooden ware, paper and wood, transported over the road the past year, 1847:

Chairs	425,702
Pails	1,033,958
Reames of paper	166,752
Tubs	220,993
Clothes pins	4,228,206
Wash boards	101,459
Barrels	88,573
Kegs	164,295
Cords of wood	9,174
Candel boxes	174,177
Nunber of passengers carried in the cars the past year	494,035
Number of passengers carried one mile	8,009,437

From the large accession of business the past year the directors have been obliged to increase the number of engines; also the passenger and freight cars, and a great increase will be required the coming year.

Number of engines on hand at this time	17
" passenger cars and second class	25
" freight cars	463
" hand cars	11
" snow ploughs	6
" iron cars	3
" wooden cars	6
" milk crate	1

By a vote of the stockholders at the last annual meeting, the directors were required to petition the legislature for leave to extend the railroad into the city of Boston, for the better accommodation of the passengers. After great opposition, an act was passed, authorising the extension—which act, and an estimate of the cost of extending the road, and building a depot, was presented to the stockholders for their acceptance, at a special meeting called for that purpose, at Fitchburg, May 3, 1847. The act was unanimously adopted, and the directors authorised to carry the same into effect. A bond for the land necessary for the large and commodious depot now being built, having been previously obtained at a reasonable price, a conveyance of the land to the company was made as soon as practicable after authority was given to make the purchase. Contracts were immediately made for building the bridge across Charles river, and erecting the depot, for a description of which the directors would refer you to the building itself, which is in a sufficient state of progress to give you some idea of its magnitude and elegance. It may be thought by some to be an extravagant expenditure of money for such a purpose, but when it is considered that our road, with all its connections, completed, will be second in importance to no railroad in the State, and that we shall require the most extensive passenger accommodations, the directors feel confident that the expenditure will not only meet the approbation of every stockholder and the public, but will prove a good investment. It is expected that the depot and bridges will be ready for the passenger trains to enter the city of Boston by the 1st of May next. We have no doubt that the increased business on the short travel alone, caused by the extension of the road into the city, will be sufficient to pay a good interest on the whole cost.

The year's lease of the Lexington and W. Cambridge railroad to this company, expired the 1st of September last, since which a new contract has been agreed upon by the directors of both companies, for operating that road for 10 years—the contract we present to you for your confirmation.

During the year 1847, a branch railroad, extending from the Fitchburg railroad in Groton, to West Townsend, a distance of 12¼ miles, has been commenced and finished by the Peterboro' and Shirley railroad company, which will continue to our road a business that might otherwise have been diverted, and also give us a portion of other business, which properly belongs to this line, but which we have never had. The directors deeming the control of this branch of great importance, have agreed upon a lease with that company for a term of years, upon favorable terms for both corporations—the contract we submit to you for your approval.

At a special meeting of the stockholders held at Concord, September 9th, 1847, the directors were authorised to proceed in the construction of the Feltonville branch, a charter for which was obtained in 1846, which require the building of the road to Sterling. At the last session of the legislature, the charter was so modified, that any part of the road might be built without forfeiting the balance. Under the above vote of the stockholders, the directors are causing the final surveys to be made to Feltonville, a distance of 10 miles from the point of connection

with the Fitchburg road at Concord. When the surveys are completed, the road will be put under contract.

Our road, engines and cars are in excellent condition, and it has been our aim to keep them in such order as to make the depreciation account as small as possible. We have contracted for a sufficient quantity of iron to lay 16 miles of additional double track and the necessary turnouts, a portion of the grading for which has been done the past year. The laying of the iron will be commenced early the ensuing season. It is the policy of the directors to lay a portion of double track every year, till the whole is completed to Fitchburg.

All of which is respectfully submitted by

Jacob Forster, Horatio Adams, N. F. Cunningham, Alvah Crocker, Abel Phelps, H. Timmins, Israel Longly, David Loring E. H. Derby, *Directors.*

Copper Mining at Lake Superior.

The following letter, which we find in the American Mining Journal, gives many interesting facts in relation to the various locations and operations in the copper district.

From the accumulating evidence in relation to these mines, we are led to the conclusion that they are exceeding rich, and *will* be very productive, yet many losses will be sustained by those who embark in the business without a knowledge of *it*—and of *those* whom they employ—yet they are to be sources of wealth, and a new and extensive business in this country.

The writer says,—

LAKE SUPERIOR, DEC. 17, 1847.

To the Editor of the Mining Journal, etc.

SIR,—The following communication contains the latest information from this part of the country. Thus far, we have had a very pleasant winter. The snow on the mountains is about two and a half feet deep; but, on the lake shore it does not exceed six inches. But we have near five months of winter yet to come.

During the fall we had very stormy weather, and there were many narrow escapes of life on the lake. I presume you have had an account of the perilous state the Julia Palmer was in on her last trip up. Since then the small schooner Chippeway went ashore a short distance above Eagle river. She had supplies for the Ontanogon river and Porcupine mountains, which were landed in good condition at Eagle river. It is a great misfortune, as provisions were very scarce—a large quantity having been thrown overboard from the Julia Palmer, that were destined for that place. A number of men will be thrown out of employment at that place, and be forced to come down to Eagle river. Companies engaged in mining operations on this lake, will learn, after a few years more experience, that there will be nothing lost by having supplies sent up a little earlier in the season.

I have just been around, looking at the works of the companies now engaged in working their veins. The Albion company is situated about a mile and a half above the Cliff mine. There are but a few men employed, and but little progress will be made this winter. They have a fine saw mill on their location. They have not been working their vein for some time, but intend to go on again in a short time. The Medora company occupy a part of the lease of the Albion. They have lately discovered a vein, which promises well. They have only sunk a few feet on it; but even at that distance, the wall is well defined, and the lode is impregnated with fine native copper. The bluffs at this place are about three hundred feet high—rising almost perpendicular. The Pioneer furnace company have erected a small furnace for experimenting on this section, but have suspended their operations until next spring, The North American lies between the latter company and the Cliff. There have been a number of veins found on their lease, and their east line—according to the last act of Congress, in relation to the mineral lands on this lake—will take in a number of buildings of the Cliff. The great vein, on which they are at work, also runs on to the North American; but has not as yet been discovered. They are now working on a vein which has been found lately by cross-cutting. It certainly is a very good prospect. The vein is about ten inches wide, and there are a number of small ones on each side of it also. On the east side is a vein about four inches wide—from which some very handsome copper has been taken, which is pitching towards the larger one; and there can be but little donbt they will unite when they sink deeper. There are several families on this lease, and about twenty-four persons in all.

The Suffolk company lies south-east of the North American, and Mr. Pray has been putting up a small engine and furnace, for smelting, etc. He has a large quantity of ore, containing great sulphuret, which he intends experimenting upon this winter. A new vein, about three fourths of a mile east of his present works, has recently been found, containing gray sulphuret. It is about two feet wide. But little work has been done on the vein, as he is at present trimming an adit. This vein resembles the Lac-la-belle very much. Mr. Pray has the best road on the lake. The Michigan, alias the Belle Alliance, lies east of the Suffolk. There are two parties on these locations (4.) I saw some specimens from them, which contain a small per centage of gray sulphuret. The Buffalo company have only three men on their lease. They have a vein, but nothing has been done on it as yet. The North-Western have eight men employed, and intend sinking on their vein as soon as they can dam the water off. The vein looks exceedingly well. The Cliff mine raised a piece of copper a few days since, weighing about five tons. It has been cut on three sides, frem a very large mass in their lower drift. The Copper Falls company have commenced trimming up a deep adit, as recommended by Mr. Seymour, who made an examination of their works last summer. They also intend sinking their main shaft to meet it. The length of the adit will be about nine hundred feet, and the depth of the shaft two hundred and fifteen feet. The hill rises about three hundred and twenty feet above this point, so that they will have drained, when the adit is extended, for five hundred and thirty-five feet. They have taken out some large pieces of copper lately, and there is now a mass, which must contain at least five tons, standing in one of their drifts. They are working about twenty men. The Eagle Harbor company are doing nothing.

The *North-Western* are employing about twenty men, and getting mineral ready for shipping. Their veins seem to improve gradually, and it certainly stands No. 3 on the list. The Cliff Mine and Copper Falls being the only ones that can be considered more valuable. But it must be taken into consideration, that those companies have been at work two years longer, and have expended a much larger amount of money.

The Lac-la-belle company have commenced driving an adit at the foot of their hill. The vein has been laid bare in several places, and is very large—being in some places over three feet wide, and contains gray ore. In driving their adit, they must cut their east and west lodes, which will prove to a certainty which is the most valuable. The east and west veins are generally small, but exceedingly rich in copper. There has been a great deal of work done on their north and south vein, and considerable ore taken out.

The Bohemian company are not at work. Mr. Mandelbaum having lost his supplies, which were thrown over from the Julia Palmer, in the heavy gale, coming from the Sault. But the vein he had been working was looking very well, and it is a great misfortune to the company that they are unable to prosecute the work this winter. Mr Mandelbaum is superintending the Lac-la-belle works.

There are a number of companies who have one or two men on their leases, but doing nothing worthy of notice. We have had no letters nor papers at this point since November.

TRUTH.

Railway Currency.

We find the following plan, or suggestion, for a *better* than *bank* currency, in the Railway Record. The writer says it will be better, even than gold; and we think he is right, as they would draw interest, and be worth more, at the end of three years, than at the issue, whereas, a *sovereign* kept three years in circulation, will be worth less, by wear, than when issued, whilst the security on which the note is based is constantly increasing in value.

VICTORIA RAILWAY SOVEREIGN NOTES.

The following letter has been addressed to the editor of the *North British Daily Mail:*

Sir,—Parliament has met, the premier has said that there was nothing particular to do, and the house has set its seal to the assertion by adjourning till the 3d of February, after having passed a bill for Ireland, perfectly insufficient to meet the exigencies of that distracted and wretched country, and have totally evaded the question of currency, on which the restoration of the country from bankruptcy and ruin, to prosperity and affluence, entirely depends.

The *Times* attributes to railway investments—which cause a call upon the resources of the country amounting to about £1,000,000

sterling per week—our present commercial prostration; but it has not offered any explanation of the fact, that during the last years of the late war the country was, without crippling or embarrassing its commercial resources, able to pay into the hands of government £120,000,000 per annum, to be expended on subsidies to foreign countries and war—a much greater sum than is at present required to meet the national expenditure, and the million per week to be laid out in the country in railways; and it seems to have forgotten that, from the improvements on, and increase of, machinery, the productive power of the country has increased five-fold, and the population almost doubled, since the cessation of hostilities; while the capital of the country, as far as Glasgow, is interested, has more than quadrupled. As to the general increase of the capital of the country, the result of the income tax assessment has put that question to rest.

The question then naturally occurs, why then such commercial distress? Whence this bankruptcy and ruin? Wherefore the prostration of our commercial resources? I answer, all this is caused by the want of what, during the late war, we had—namely, a sufficient currency to represent the property, and carry through the prodigious and ever increasing transactions of this great and wealthy country; and, until that is provided, it is vain to hope for any permanent improvement, although the government and the directors of the bank of England may, by unnatural and artificial means, give a temporary relief, but it can only be temporary.

So far from agreeing with the *Times* in its intemperate and indiscriminating censure of railway undertakings, it appears to me that, by taking advantage of these very undertakings, the government would be enabled to secure for the country a permanent unfluctuating, and more valuable currency than gold, and one amply sufficient to represent the property and transactions of the country.

Let the government complete, to the extent of £50,000,000 sterling, such of the unfinished lines of railway as will, when opened, ensure a return to the satisfaction of a board of commissioners, appointed by government, for the purpose, and which have already been formed to the extent of one half, or two thirds, by their shareholders; and let the assistance be given on the following terms. But I shall better explain this by an example.

I shall suppose a line which will cost £3,000,000 when completed, and on which £2,000,000 have already been expended by the shareholders, leaving £1,000,000 to be advanced by government to complete the line, which million is to be a preferable claim on stock secured over the whole cost and value of the line, and entitled to preferable dividend of 2½ per cent. The line, when completed, to be managed by a board of directors, one third, or a half, appointed by government, and the remainder by the shareholders of the railway. I shall suppose the worst possible result of the first year's traffic on the line, and that there is only a clear revenue of £25,000 to meet the 2½ per cent. preferable government claim; but taking the revenue at £75,000, this would give a dividend of 2½ per cent. to the shareholders after the government guaranteed 2½ per cent., or £25,000 was paid; or take the dividible revenue at £150,000, this would give 5 per cent. to government, and the same return to the shareholders; and as the best and most promising lines would, of course, be the only ones selected, a return of at least 5 per cent might, in most cases, be confidently looked for.

Against those revenues, derived by government from completing the lines, let them issue, in payment for the completion of the works, a *permanent* currency for the use of the country, £30,000,000 in Victoria railway sovereign notes, and £20,000,000 in Victoria railway 5, 10, 50, and 500 sovereign notes, bearing interest at the rate of 2½ per cent. per annum, payable on the £30,000,000 at the expiry of three or five years, and on the £20,000,000 of large notes at the end of one or two years, to be replaced by new issues when the dividends are paid.

Perhaps Sir Robert Peel and Jones Loyd may exclaim, this is, after all, only paper, and therefore worthless; but it is no more paper than a £10,000 mortgage bond secured on the royal exchange of Glasgow, or the lands and revenue of Drayton Manor—would be paper. Were such a currency issued, in less than two years it would supersede the thirty millions of gold sovereigns at present circulating in England, at a prodigious annual loss to the country, and send them back to the vaults of the bank of England, to meet the foreign exchanges, when from failure of the harvest, or any other reason, the balance of trade came to be against this country, if not superseded by the large Victoria railway sovereign notes, which could be transmitted to foreign countries at much less expense than gold, and, from daily increasing in value, would command a higher price, and be more sought after than gold in Wall street, New York, and every other foreign exchange market.

John Bull would not be long in finding out the difference between a gold sovereign depreciating from the fluctuations in value common to every metal, and tear and wear and sweating,* and a Victoria railway sovereign note, daily increasing in value, and that would at all times command a greater amount of commodities than a gold sovereign, besides being secured upon, and representing the intrinsic value of double or three times the gold sovereign, independent of the daily increasing sinking fund, arising from the excess of the dividends drawn by government, over the 2½ per cent. secured to the currency.

The limits of a letter will not permit me to expose the inefficiency of our present currency. To represent the property and transactions of the country, or to show the immediate advantages that would accrue to the country by the adopting of this measure, it would secure, amongst many other benefits, the instant revival of trade and commerce; provide work in abundance to the thousands who are at present anxious to obtain it, and who are forced to continue unemployed while they see their families dying for want, which they have no means of alleviating; the bringing an immediate return to the prodigious amount of capital at present locked up in these unfinished lines; the development of our mineral resources, as yet only beginning to be appreciated; increased facilities for commercial intercourse, and the general advancement of the mercantile interests of the country. I remain, sir, your obedient serv't,

M. M. PATTISON.

Glasgow, Dec. 27, 1847.

* Taking the annual loss from wear and tear and sweating on the 30,000,000 sovereigns at present circulating in England, at one sovereign in the 300, gives an annual loss of.....£100,000
Add interest 5 per cent. on this 30,000,000 of gold, is.....1,500,000
Add 2½ per cent., the dividend on the 30,000,000 Victoria railway sovereign notes 750,000
£2,350,000

An annual saving of £2,350,000 to the country, exclusive of the excess of dividends paid from the railway lines, over the 2½ per cent. secured to the currency, from the issue of the 30,000,000 Victoria railway sovereign notes.

NOTICE TO CONTRACTORS.

PROPOSALS WILL BE RECEIVED AT the office of the Youghiogany Navigation Co., in the Borough of Westnewton, until Wednesday, the 23 day of February next, for the construction of the seams and locks upon the Youghiogany river improvement. Plans and specifications of the work may be seen at the company's office any time after the 18th of February. And any information in regard to the work may be obtained from J. E. Day, Engineer, at Pittsburg. The proposals will be addressed to the President of the Company, at Westnewton. By order of the Board.

ALEXANDER PLUMER, *President.*

Westnewton, January 28th, 1848.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 ly

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.

January 29, 1848. tf Springfield, Mass.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

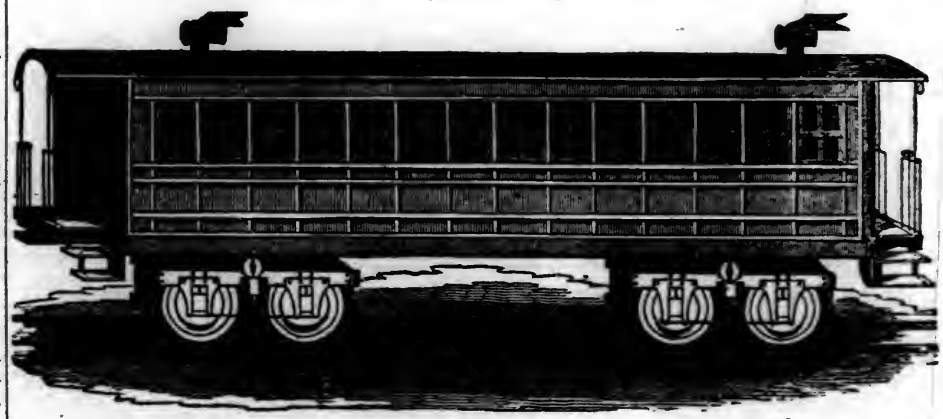
Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

GEO. W. TOWNS, *Governor.*
WM. L. MITCHELL, *Chief Engineer.*
Atlanta, Ga., January 24, 1848. [7t6]

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

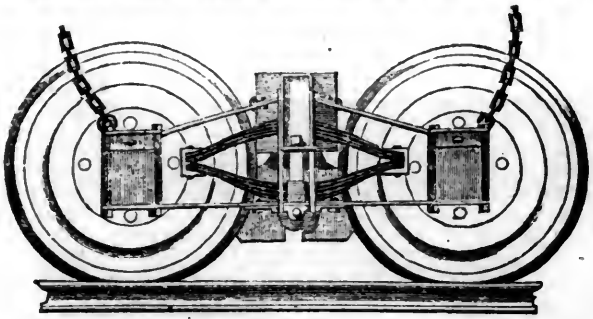
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
1tf Phiiadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
1y48 77 Pine St., New York.

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3½	8	3	8¼	16	–	27	11-16	13½
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¾	5	2	6¼	9	4	13½	1-2	7¼
16	2¾	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

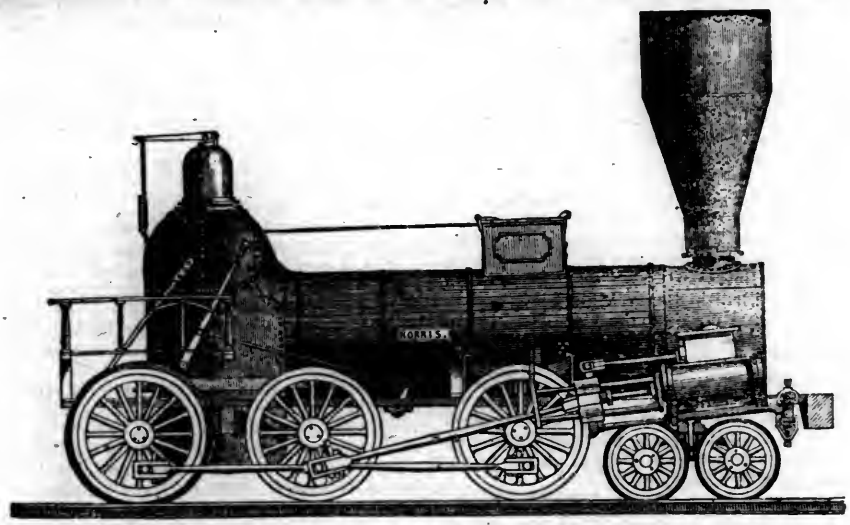
The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

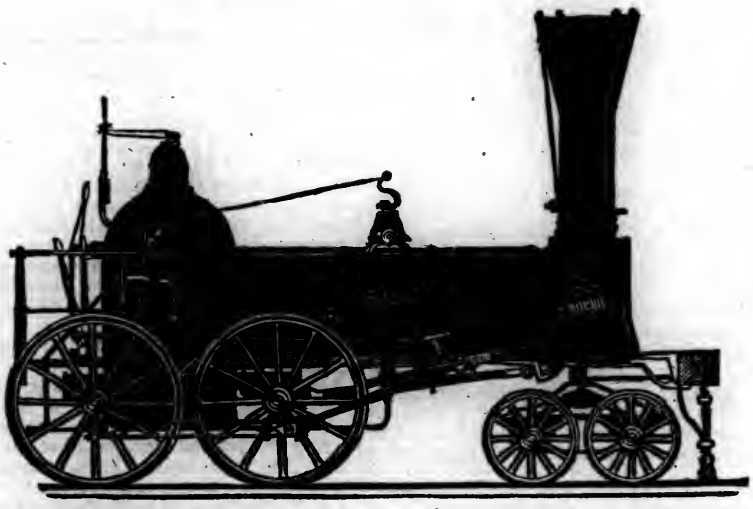
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J
25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.


WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

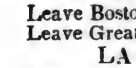
Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:



Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—




Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

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CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:




Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.




Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:




Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
15tf DAVID S. IVES, Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.
First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

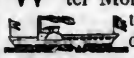
Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

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WESTERN RAILROAD,—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:




Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad.....10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

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CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price,
Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

f25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12¾ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4¼ p. m., 7 p.m., 12¼ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.	Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class. Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class. Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class. Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class. Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
Cotton, per 100 lbs.....	0 45	0 75
Molasses, per hogshead.	8 50	13 50
" " barrel....	2 50	4 25
Salt per bushel.....	0 18	
Salt per Liverpool sack..	0 65	
Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., July 15, 1847. 41*1y

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

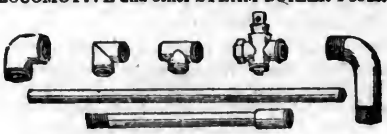
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

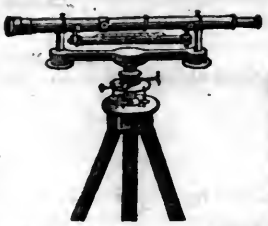
PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

LAP—WELDED WROUGHT IRON TUBES FOR TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER, and

ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ed barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
ty10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No 8] SATURDAY, FEBRUARY 19, 1848. [WHOLE No. 609, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, February 19, 1848.

New Car Factory.

New establishments are rising up in various parts of the country, and especially in New England, for the manufacture of railroad machinery. We have heard favorable accounts of the new car establishment at Norwich, Ct., though we are not familiar with its extent, and ability to turn out work.

The following advertisement, however, indicates a readiness for orders.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

General Agent,

Norwich, Conn.,

Will meet with immediate attention. 1y8

DAVIS, BROOKS & CO., NEW YORK, offer for sale:

150 tons Railroad Iron, 60 pounds per lineal yard, of an approved pattern, and in long bars; also, 500 tons, ditto, expected to arrive in the month of April next. 6t8

Cornish Engines.

The number of pumping engines reported this month is 28. They have consumed 1,783 tons of coal, and lifted 17,000,000 tons of water ten fathoms high. The average duty of the whole is, therefore, 53,000,000 lbs., lifted one foot high by the consumption of 94 lbs. of coal. The boilers are leaky at Sims's engine, Carn Brea, Wheal Andrew, and Nangiles, and at United Hills.—"Lean's Engine Reporter," 10th Dec.

Heavy Locomotives.

The London Morning Post says, "it is stated that orders have been issued by the Great Western company for the manufacture of sixteen additional eight wheel engines of the class to which the 'Iron Duke' belongs. We believe that these engines will, however, be five or six tons lighter than the 'Iron Duke,' which we are informed, on good authority, weighs upwards of thirty-six tons when in working order."

Croton Aqueduct: By Schramke.

We have received from the publishers, Messrs. Wiley & Putnam, of N. Y., a copy of SCHRAMKE's description of the Croton Aqueduct, with 20 plates. This description is prepared by a gentleman who was employed upon the work, during its construction—as an assistant engineer, we presume—and who is therefore familiar with all its details. It is published in English, German and French, and will be found exceedingly useful to those who desire to understand its construction, its cost and its capacity. It is for sale by the publishers, 161 Broadway, New York.

Crimple Viaduct.

HARROGATE BRANCH OF THE YORK AND NORTH MIDLAND RAILWAY.—The closing of the last arch of this stupendous work was performed on Thursday, the 23d of December, amidst the cheers of the workmen, and in the presence of Messrs. Farrell and Sykes, the contractors. An idea of the extent of this viaduct may be formed from its dimensions. It is 1,848 feet long, 142 feet high; and consists of 31 arches, each 50 feet span. The first stone of the work was laid on the 29th April, 1846; so that, in the short space of 20 months, an unparallelled amount of masonry, consisting of those massive piers and lofty arches has been put together under the superintendence of John Cass Birkinshaw, Esq., engineer to the York and North Midland railway company, and his assistant, Arthur Thackeray, Esq., of Harrogate.

Mixed Gauge.

In the Journal for 8th January we referred to a plan of mixed gauge proposed by Mr. Wallace, for the connection between the Buffalo and Attica and the proposed Hornelsville branch of the New York and Erie railroad; and in reply to our inquiry we have received the following from Mr. Wallace in relation to the matter.

He says, under date of 9th instant,—

"The plan I proposed for running the cars belonging to the New York and Erie, or Attica and Hornellsville railroad company to Buffalo, was simply to use four lines of iron rails instead of two, making two tracks on the same ties, one within the other.

"Three lines of rails would answer the purpose, though not so well, as the cars in that case would regain double bumpers and couplings.

"Very respectfully yours,

"WILLIAM WALLACE."

The Peruvian Steamer Rimac.

This fine vessel is lying at the foot of Twelfth street. She is indeed a beautiful craft, coppered and copper fastened throughout, and of exquisite model. Her hull was built by Brown & Bell; her engines by Stillman, Allen & Co. They are of 45¢ horse power each. On her stern, which is round, are painted the Peruvian arms. She was to have left on the 28th of January, for Rio Janeiro and Talcahuanha, thence to Calloa. She is pierced for six guns, and one large pivot gun in the bow which sweeps the half of a circle; and in addition to her steam power, is rigged as a first class brig. Her force will be sixty men, exclusive of officers, engineers, and firemen.

We had an opportunity, in December, of examining her, at the novelty works, where her machinery was built, and have no hesitation in saying that she is, in our opinion, one of the finest vessels of her class ever built.

MESSRS. STILLMAN, ALLEN & Co. were also engaged upon the machinery for two of the Bremen line of steamers, the "Herman" and the "Franklin," besides two for the Panama line, and two others for Savannah.

They had between *five* and *six* hundred men at work when we were there, whose wages amounted weekly to about $5,000.

Main Stem, or Trunk Line, Railroads.

We have received the following queries in relation to the mode of operating, and the advantage of, trunk lines of railroad; but as the subject has not before been presented in this shape, we are not prepared to give answers satisfactory to our own mind; and therefore give them a place in the Journal, with the request that we may be put in possession of such facts, by those gentlemen who have had experience in managing or using trunk lines, as will enable us to answer the inquiries which are made for practical purposes.

The writer says "You will greatly oblige me by sending me as early as practicable, information on the following subject:

First. Is it practicable for two railroads to unite and run over one common trunk.

Second. If so, you will please state the examples of the kind either in Europe or in this country.

Third. Will you please state whether such unions have been beneficial or detrimental to the interests of the companies so united.

Fourth. Please give me your opinion and the best criterion you have, how such unions should be formed so as to be most beneficial to both companies."

The two first are easily answered, and the examples, in this country, are the *Worcester, Western, and Norwich and Worcester* roads, all using the Worcester road; and the *Eastern* and the *Boston and Maine* roads uniting at South Berwick, and using one track, 39 miles, to Portland; and formerly, for several years, the *Lowell* and the *Boston* and *Maine* companies used the road in common, 15 miles, to Wilmington—though the Boston and Maine road has now a distinct line into, and spacious depots in Boston—we may therefore with confidence call, for this information, upon the superintendant of this road, CHARLES MINOT, Esq., who worked his road, for several years, at both ends, in common with other companies—and now works one part in common, and the other by itself, and has thus had every variety of experience in the matter.

We may also with equal propriety, and do call upon WILLIAM PARKER, Esq., of the Worcester, and JAMES BARNES, Esq., of the Western—who can, from experience, give the information desired.

We might also refer to the Baltimore and Ohio and Washington branch, but it would not be in point, as both roads are worked by the same company.

In England the *London* and *Brighton* and the *South Eastern* to Dover, use a common line from London to Reigate, 21 miles.

From Reigate to Brighton is 29¼ miles, and branches 67¼ miles, making a total of 97 miles. The distance from Reigate to Dover is 67 miles, and the branches 60¼ miles—total 127¼ miles.

The passenger traffic on these roads is large, there being *ten* trains a day from London to Brighton, and also *ten* distinct trains for Dover, making 40 passenger trains per day, over the trunk road.

There are other companies in England which work on trunk lines, but the present policy in England appears to be to unite, or *amalgamate*, several connecting lines under one management, and thus avoid the difficulties which might possibly arise from separate or distinct management.

There are, undoubtedly, many places in this country where, by the construction of a trunk line, for a greater or less distance, important interior towns, distant from each other, may have railroad facilities, which they could not possibly have by entire and distinct lines; and the question with them is whether it is not better for them to have a railroad communication, even if it does diverge materially from a direct line, rather than to be for years without its advantages.

Whitney's Oregon Railroad.

We published in the Journal for 1st January, an article by Mr. Whitney, with maps, giving his views in relation to this vast project. One of those numbers fell into the hands of a gentleman in one of the northeastern States, who does not agree fully with Mr. Whitney, and he therefore sends us the following article in reply. As the writer only gives his initials, we do not feel at liberty to give his name in full; if we were to do so, he would be recognized as a gentleman of great intelligence and worth, who has done his country *important service, both at home and abroad*, and whose aim in writing, is to be still further useful to his countrymen.

We shall at all times be pleased to hear from him, on this and other matters of interest, even though we may differ with him in opinion.

For the American Railroad Journal.

The communication of A. Whitney, dated Sept. 8th, 1847, published in the American Railroad Journal, of January 1st, has recently been brought under my notice by a friend at Washington. It appears to me that he has employed a volume of words and figures, to prove no more than what a smart schoolboy, tolerably conversant with geography, could have as well shown in a few hours, with a map of the world before him, and a pair of dividers, in his hand, viz: the distances between Charleston, Richmond, Baltimore, Philadelphia New York and Boston, by the way of Prarie du Chien, to some place not mentioned on the Pacific ocean, and from thence, to Japan, to the mouth of the Yellow river, and several other places designated in the Indian seas. As he finds the distance from the Yellow river to the west coast of America, and thence, across our continent, to New York, nearer than round the cape of Good Hope, in a rhapsody of delight he asserts that this shorter route "will secure to us the entire control of the commerce of Europe, with all Asia." Included in the word "all," Mr. Whitney appears to forget that there is a very considerable trade carried on by the Europeans and Americans with that part of Asia bordering on the Mediterranean, the sea of Marmora, the eastern coast of the Black sea, the east coast of the Red sea, the Persian gulf and the whole of Hindostan, Ceylon, etc.;—which it is not very probable will be sent to the west coast of America, to have the benefit of his railroad. Can any man, conversant with European politics or European interests, believe that three nations so jealous of their commercial interests, as are England, France and Holland, would give to the United States—their great commercial rival—the carrying monopoly of the immense productions which those countries respectively import from the East Indies, from China and the Indian islands for their own consumption, when the trade has been deemed of so much importance to each, that several wars have been entered into between them, during the last two centuries, to secure a monopoly of it. England considers the carrying trade, and the fisheries, as the nursery of her seamen, the source of her naval superiority and commercial ascendency. About two centuries ago she passed the Navigation act, and went to war with Holland to wrest from her the carrying trade; at a later period, with France, to expel the French from Hindoston, in order to monopolize the trade of that immense and fertile country; and all the wars that those nations entered into prior to the French revolution, were largely influenced by their commercial interests. Yet Mr. Whitney thinks, or wishes to make Congress believe, that those nations will send their goods to some American port on the Pacific, (and the vessels go back empty) to be carried by railroad to New York or Boston, and there re-shipped, when the goods can be freighted round the cape of Good Hope to the ports of those respective nations, in their own bottoms, at about one-third or one-quarter the expense. From the mouth of the Ganges via the straits of Malacca, to the strait of Juan de Fuca, thence to New York by railroad, and thence to Falmouth, the most westerly part of England, it is nearly two thousand five hundred miles further than it is round the cape of Good Hope to Falmouth; the latter route saving in addition the great expense, risk and delay of unloading, transportation by railroad across our continent, and re-shipping at New York. The insurance alone to the strait of Fuca, across America and to England, would be four times as much as by the cape of Good Hope, if it could be done at all. So far as it applies to Great Britain, the goods must be carried from N. York or Boston to England in their own bottoms, as the navigation act would not allow of their being carried in any other. But if distances and despatch only are to be taken as the basis of calculation, in order to secure the commerse of foreign nations, as Mr. Whitney says, how does it happen that the Venetians, who were the most active, most intelligent, most industrious and persevering commercial State that ever existed in the south of Europe, who had enjoyed, nay monopolized the East India commerce through the Red sea, and down the Nile, for several centuries, with all their capital and skill, could not compete with the rest of Enrope for this commerce, after the discovery of the passage round the cape of Good Hope, although then conducted in a very unskilful manner; and why has not England since the invention of steam vessels returned to the ancient channel of the Indian trade? The voyage from Canton, Calcutta, Bombay and other ports on the route to Suez, at the head of the Red sea, affords the greatest facility for steam navigation; as, during the whole route, steamers would find safe ports at convenient distances for a supply of fuel, etc. From Suez, it is about 100 miles across a level country for a railroad to the Nile, and from Alexandria to Trieste, or to Marseilles, or to Malta, Gibralter, Lisbon and Falmouth, there is an unobstructed and safe steam navigation, and yet among all the projects with which the hot bed of speculation teems in England, no man has been visionary enough to suggest that the voyage round the cape of Good Hope in sail vessels with bulky commodities should be given up for that through the Red sea, and Mediterranean, in steam vessels. For the Indian mails and passengers, the latter route has been adopted for several years. But the passengers have been confined to the wealthy, who valued shortness of time more than money; the poorer travellers, who value money more than time, still going by the cape, and this is the route of the East India companies servants, and the soldiers. But Mr. Whitney has determined that the route shall be across the Pacific and the American continent, and displays much tact in passing over difficulties, which would interfere with the calculations of a more timid projector. Experience has shown that fifteen hundred to two thousand miles, is distance enough for depots of coal for ocean steamers, intended for freight or passengers. The British line of steam packets to New York experienced a series of disasters in several instances from shortness of fuel, and could not be sustained. The Cunard line from Liverpool to Boston, by stopping at Halifax both

ways for fuel, and aided by the British government, with £50,000 sterling per annum, have done well. But the French line of steamers from Cherbourg, so far, has been a failure—one putting into Marthas Vineyard for want of coal, and the passage of the other being lengthened by heavy westerly gales, from the same cause was obliged to put away before the wind, and got into Coruna. Now, across the Atlantic is about three thousand miles, and the two lines of steamers which have attempted the trade without an intermediate stopping place, have been unsuccessful. Yet Mr. Whitney assumes it as a settled question, that steamers can navigate from China to the west coast of America with perfect ease, a distance of about 7000 miles, without one stopping place. From the Japanese islands to America, between the parallels of 30 and 50 degrees north, a distance of near 90 degrees of longitude, there is not one inhabited island, or, probably, one capable of being inhabited. As to the Sandwich islands, they lay in 21 degrees north, and the angles out of the direct course would increase the distance about one-fifth to one-fourth, making bad worse. So far as the trade with Japan is concerned, Mr. W. must be experimenting upon the credulity of the public. The only European nation tolerated there is the Dutch, and they are only allowed a limited trade, under surveillance, by forswearing the Christian religion. What prospect we have of opening a commercial intercourse with them, the Japanese authorities lately showed by their prompt rejection of the commercial relations proposed by the commander of our vessels of war, the requisition for the immediate departure of that ship, and the inhibition of their harbors and waters to our flag for the future. It is a well known fact, that by far the cheapest kind of transportation is that on board of ships navigated with sails; the next is in canal boats drawn by horses, or in freight boats towed by steamboats; the next by steam vessels; the next by railroads; and the dearest of all, the carrying in wagons or carts drawn by horses or oxen, or that on the backs of mules and camels, horses and asses. It must follow that ships with sails will always be the carriers of all bulky commodities for long distances—such as teas, Java and Sumatra coffee, Sumatra and Malabar pepper, Manilla hemp, etc., etc.; but where the saving of time is the great object of calculation, such as in the carrying of passengers and the mails, steamboats and railroads will be preferred. But there are other objections to Mr. Whitney's project, of so serious a description, that it appears to me they cannot possibly be overcome. One of the objections which he very gravely urges against the Panama route, is the want of a good harbor as a depot for the Chinese productions. Will Mr. W. be pleased to inform the public where he can find one in the Oregon territory? Mariners know that there is a bar across the mouth of the Columbia river, and that when the wind blows from the seaboard, which is a considerable portion of the year, there is so tremendous a surf breaks upon it, as to prevent all ingress or egress for vessels of any class. In the strait of Juan de Fuca, in 49 degrees of latitude, doubtless a good port may be found; but the country, in that latitude, is of so mountainous a character that it would be difficult to make a railroad there. From this strait to the bay of St. Francisco, laying in about 37 degrees of latitude, there is not a single safe harbor on the coast. To get to the bay of St. Francisco, which contains a good harbor, the railroad would be obliged to cross the Sierra Nevada, which, from all accounts I have seen, presents an impassable barrier to a railroad. The next objection is, the enormous expense that would attend the building of a railroad from lake Michigan to the Pacific ocean—a distance of about two thousand miles. The cheapest railroad that I have known built, completed for use, with steam carriages, cars, etc., etc., have cost about twenty thousand dollars a mile, and many, through a hilly, rocky and mountainous country, have cost more than double that sum. As almost all the materials, for the construction of the Oregon railroad, must be transported through a wilderness country, at a very heavy expense; and, for four or five hundred miles of the way it is said there is a scarcity of trees for timber, or even for fuel, as well as of water, we may assume that this railroad will cost at least thirty thousand dollars a mile, with cars, engines, etc.; which will amount to sixty millions of dollars for the whole route—an enormous expenditure of money for a railroad through a wilderness country. But Mr. Whitney contends, in one place, that the value of the land sixty miles wide on the route, will build the railroad. But, in another place, in order doubtless to induce congress to grant him the sixty miles wide through the whole distance, he seems disposed to undervalue the land. Now, if the land is waste and worthless, how can he sell it to raise funds with which to build the road? To my simple apprehension, there is here a palpable contradiction. On the reverse, if the land is good, which is obviously implied from his assertion that a railroad can be built with it, if a grant is obtained, I contend that the granting of 120,000 square miles of land to build a railroad through a wilderness country, would be a most outrageous waste of the public property. I know that it is urged that the wilderness, along the whole of this route, is by means of the railroad to blossom like the rose. I see that puffing will never be out of fashion, and Mr. Whitney displays no ordinary talent in this line. Perhaps, in the neighborhood of the Michigan and Mississippi, and on the borders of the Pacific, it might much accelerate the settlement and cultivation of the soil; but, for eight hundred or a thousand miles of the interior part of it, it will be likely to remain a wilderness for generations to come. When the Long Island railroad was contemplated, there were many suggestions put forth that it would greatly contribute to the improvement of the lands along the route, and what has been the result? Why, the lands remain precisely as they were, and the shares, which cost fifty dollars each, are selling at twenty-three. It will be well for Mr. Whitney to inform the public how he means to guard the railroad against the depredations of the Indians. It is well known that they are extremely jealous of any encroachment of the white man on their hunting grounds; and can any one believe that so vindictive a people could forego the opportunity of destroying the track through their country. Why, the value of the iron alone, without being stimulated by revenge, would be a sufficient inducement to them to do do it. In order to make his project appear the more plausible, Mr. Whitney has been pleased to state that freight could be carried over the road at a half a cent per ton per mile. This assertion savors much of poetical license; it is certainly not predicated on known facts. It must be evident that where a great number of passengers pass over a railroad with a large amount of freight, the fare of the passengers and cost of freight can be afforded at much lower rates, than they can, when the passengers are few and the freights small. Perhaps no railroad in the United States has so large a quantity of freight passing over it, as has the Western, and the cars are also filled with passengers, and yet they charge four dollars per ton for heavy goods, and seven dollars for light, from Albany to Boston, a distance of 200 miles. At the same rate, the freight from New York to the Pacific—a distance of 3000 miles—would be sixty dollars per ton for heavy, and one hundred and five per ton for light goods.—Now if his assertion has any approach to truth, there must be great extortion on this route—a thing not to be believed when we recollect that there is both steam and sail vessel navigation, from Albany to the city of New York, which compete with the railroad. His assertion, too, is made more incredible, as west of the crossing of the Missouri, a distance of about 1500 miles, through a wilderness country, there is not much probability of there being five passengers or five tons per trip, for a half a century to come, which would not pay the wear of the track. But if Mr. Whitney can coax Uncle Sam to give him territory equal in surface to fifty German principalities, it will smooth all difficulties. Instead of his extravagant project, will Mr. Whitney allow me to recommend that about a fifth part of the value of the lands for which he petitions, be appropriated to clear the western rivers of sawyers and snags, to improve and form harbors on the lakes, and to fill up the breaks in the railroad from Washington, D. C., to Stafford county, Va., from Raleigh, N. C., to Columbia, S. C., from Atlanta, in Georgia, to Chehaw, in Alabama, and to continue it from Montgomery, in Alabama, to New Orleans. Those parts and the continuation would make a continuous line of railroad from Portland, and soon from Augusta, in Maine, to New Orleans. The reciprocal interest which would grow out of this rapid intercourse, would wear off prejudices, beget good will, secure harmony, and bind the Union together in a silken band. This route, too, would obviate the delays now complained of in the southern and southwestern mails, would pass through the most densely populated portion of the United States, would accommodate the commercial travel of our business men, and our health and pleasure seeking population from north to south in the autumn and winter, and from south to north in the latter part of spring and early part of summer. From this main line, lateral branches are and would be extended to the western sections of the Union, as business or convenience should call them into being. By this plan, twenty millions of people would be directly accommodated and benefitted, which to my plain common sense view of the subject, would be immeasurably better than to attempt to scale the Rocky mountains by steam, or the mountains bordering the straits of Juan de Fuca or the Sierra Nevada, or contending with the Indians for the right of way, and frightening away the grisly bear, the buffalo and deer, by the hissing of safety-valves, particularly as the two latter animals may be essential for food on the route. But Mr. W. asserts that much of the southern country is unfit for a railroad, owing to its swamps. Does he not know that most of the southern swamps are filled with cypress and Juniper, a fine timber ready at hand to be driven as spiles for a solid foundation for a railroad track. So far as any conclusion can be drawn from the experience of Europe, and the United States in regard to railroads, Mr. Whitney's project wants all the essential elements of success.—Whenever railroads have passed through an active, agricultural, mechanical, manufacturing and commercial country, they have proved eminently beneficial to the country at large, and profitable to the projectors; but where these elements have been wanting, they have been a loosing concern to the stockholders, and have not been attended with much

advantage to the public. Should, half a century, or a century hence, the Oregon territory become densely populated, and the country west of the Mississippi be filled with inhabitants, a railroad from the Atlantic border to the Pacific would become an object worthy of public attention; but fifty or a hundred years in advance of such a state of things, it must to every sober minded common sense man be deemed too visionary a project for the grave attention of the legislature of the Union. W. J.

[With all our respect for the opinions of our intelligent correspondent, we must say that we think he is behind the age. If he will only measure the future by *his own ample experience*, he will see that *half* a century will give us a population of *over fifty*, and probably *sixty* millions! and we do not hesitate to predict that, long within that period, there will be at least *two*, if not *three*, lines of communication—either by railroad, or railroad and *canal*—between the waters of the two oceans, and that the Oregon, and the Californias, will be as densely populated as was his own beautiful valley when he first visited it.

It must be borne in mind that the impetus of the *present* day, as compared with that of half a century ago, is as *Col. Bomford's Columbiad*—manufactured by Ames, at East Boston, which throws a 12-inch ball *three miles*—compared with one of Colt's revolvers.—Ed. R. R. J.]

Napier's Foundry.—Cunard Steamers.

The machinery of these vessels, says the Scientific American, is all prepared and fitted up by Robert Napier, engineer, Glasgow, Scotland. His foundry is in Washington st., named by the inhabitants of that city after the admired father of our country. Mr. Napier employs about 1500 hands in his foundries, and makes it a rule to keep none but steady, sober men in his employ. He has long stood at the head of British engineers, at least for steamboat machinery, and the most perfect machinery in the world for this kind of work has been invented by himself and fitted up under his instructions. The new Cunard line of steamships to ply between Liverpool and New York, from accounts which we have received from time to time, will be something to excite wonder and admiration. The pistons of the cylinders are of brass, each weighing about four tons, ninety inches in diameter and of proportionate thickness. The cylinders are ninety inches in the diameter of bore and near ten feet in length, and turned on Mr. Napier's lathes as easy as if they were flutes, and with the utmost mechanical precision. Mr. Napier is at present fitting up a frigate for the British government with peculiar machinery. The frigate is called the dauntless, and is of 1500 tons burthen, with engines of 580 horse power, and all the boilers and machinery so arranged as to be lower than the surface of the water. The engine works horzontally, like that of a locomotive. It is fitted with a screw and the wheel and pinion are therefore used. The wheel, with the crank and axle, weigh about eighteen or nineteen tons. It is nine feet ten inches in diameter, and four feet broad on the hem. The hem is divided into three breadths of teeth, the middle row catching between the strokes of the teeth of the outside rows, in order to lessen the noise and friction. Each tooth occupies about six inches of the wheel, and what is not a little singular in that iron country, they are made of wood. The engine is made to perform thirty strokes per minute, and the screw to make seventy revolutions. This vessel is to be one of the finest pieces of workmanship ever finished in Mr. Napier's foundry, but they do not calculate it to run more than 12 miles per hour.

Railway Accommodation.

A writer in the London Morning Herald thus compares the relative accommodation afforded by the "*London and North Western* and the *Great Western* railway companies." The editor says,—

In our previous notice we mentioned what we considered the superior advantages conferred upon the public by the Great Western company, in the amount of second class accommodation, and the rates of speed at which their ordinary trains travel. We shall now point out some of the superior advantages given to first and second class passengers by the London and North Western company in respect to the rate of fares charged for single tickets over any portion of the rail, and for double tickets for a distance over which they can be conveniently used.

The advantage which the Great Western system of fares possesses over that of the London and North Western company consists in the period for which the return ticket is granted, and in the extension of the return ticket system to passengers by the express trains. If the passenger is proceeding by an ordinary London and North Western train, and does not require a return ticket, he is charged considerably less than he would have to pay if he were, under similar circumstances, travelling upon the Great Western railway. The first class passenger taking a single express ticket to Exeter, 194 miles, pays 50s.; but to Liverpool, 200 miles, he pays 45s. By the ordinary trains, the first class fare to Liverpool is 37s., but to Exeter it is 44s. 6d., while the second class fare to Exeter is 30s., and to Liverpool 27s. To those passengers whose business will detain them a day in Liverpool or Manchester, the return ticket of the Great Western offers an important pecuniary advantage over the fare system of the London and North Western; but we are inclined to believe that the number of persons who avail themselves of the advantages of return tickets for through journeys of a couple of hundred of miles is very far below that of the passengers who can make use of a single ticket only. Where one Exeter passenger enjoys the benefit of the return ticket system of the Great Western, perhaps ten Liverpool or Manchester single ticket passengers—persons to whom return tickets offer no benefit—reap the advantage of the lower fare of the London and North Western company. Low fares *must* be a saving to all passengers; return tickets can be economical to a very small minority only of them. The shorter the journey made by the traveller, the less comparative saving does the Great Western return ticket system secure to him. If we deal with the traffic between London and Bristol, and London and Birmingham, we shall find that while the return ticket system of the London and North Western company affords a very reasonable amount of accommodation, the *low fares* of that corporation show a very important money superiority over the charges of the Great Western company. The first class passenger, by the ordinary trains to Bristol, 118 miles, pays 27s., but to Birmingham, 112 miles, he pays 21s. only. The second class fare by the same trains, to Bristol, is 18s. 6d., while to Birmingham it is 15s. The advantage in favor of the traveller taking the return ticket is of course greater. If he proceed by the 8 30 morning train from Euston square, he arrives in Birmingham at 12 o'clock, and can devote a clear five hours to business before the starting of the 5 45 afternoon train, which reaches London at 10 10. He can have nearly the same time in London if he take a return ticket from the Birmingham office. The money advantage that he reaps is as follows:—the first class return ticket, to Bristol and back, by the ordinary trains, is 36s., to Birmingham 28s.; by second class to Bristol, 24s. 8., to Birmingham 20s. Again by first class to Chippenham 94 miles, and back it is 32s. 3d.; to Coventry and back, the same distance, it is 23s. 4d. only; by second class to Chippenham, 19s 4d., and to Coventry 16s. The first class return ticket to Slough, 18 miles, and back, is 5s. 4d.; but to Watford, 18 miles, and back, it is 4s.; by second class to Slough, and back, it is 3s. 4d., and to Watford 2s. 8d. These are very material differences in favor of the London and North Western company. The period allowed by the Great Western for the use of return tickets, viz:—One day for 50 miles, 100 miles two days, and above 100 the same on either of the two next days, is a considerable benefit, but it is a benefit conferred comparatively upon a few; while the advantage of the cheaper fares of the London and North Western is felt by *every person* that travels upon the line. The Great Western may point to its *tens* of passengers who are benefitted by the broad gauge system of return tickets, but the London and North Western can show the *hundreds* that enjoy the general advantages of the narrow gauge low rate of fares.

We have not space at command to go into the general question of fares, and to examine how far the amount of population in the respective districts through which the two companies' system of railways run, induces, and perhaps justifies the difference in the fares charged; we merely state facts that have reference to the amount of accommodation given upon the lines in question. Nor are we to forget that while a numerically superior through traffic may enable the London and North Western to reduce their fares to rates that perhaps would scarcely pay the Great Western company, the latter are giving the greater amount of accommodation, to districts far inferior in commercial importance and point of population, to those traversed by the London and North Western railway. If we mistake not, the Great Western company are bound by act of parliament to lower their fares upon the opening of the Birmingham and Oxford line. The fares

will then be, we believe, 2½d., 2l., and 1d. per mile; *quite low enough* without the *present* Great Western system of return tickets.

Parcel Traffic on the English Railways.

This subject is attracting no little attention in England at this time. And it bids fair to become a bone of contention between the post office department and the railways.

We agree fully with H. C. that it is time for the railways to organize a system for the prompt and safe delivery of parcels, as it may, by judicious management, become a source of considerable profit.

We copy the following article from the London Railway Chronicle of 1st January, and shall give the subsequent numbers when they come to hand.

Practical Suggestions for Increasing the Parcel Traffic on Railways, with Profit to the Companies and Convenience to the Public.

The object of the present and the following papers is to call attention to the existing relations between the post office and the railways, and to offer some suggestions to the consideration of railway directors, which are calculated, I believe, if carried into effect, to increase the traffic and profits of railways, in affording the public better arrangements in the transmission of small parcels. The successful result of my suggestion for adopting quadruple rails on the London and North-Western railway, which you printed (*Rail. Chron.* 1846, p. 1119,) emboldens me to ask you to give circulation to the present papers, although they extend to some length. Consistent advocate as you are for maintaining the best interests of the railways, it is proper I should ask this service of you, intended as it is for the benefit of railways; for I would beg leave to state, most emphatically, that it is not my intention, in the present case, to ask the companies to make any sacrifice whatever; and unless it is clear that my suggestions involve no risk of the present earnings of railways. I certainly do not urge the adoption of them. H. C.

1. Next in importance to the conveyance of letters, is the conveyance of small parcels. Letters now go through the post office as cheaply as can be desired at a uniform rate assessed on the weight; and many "letters," so called, are really parcels. But small parcels transmitted by railways are subjected to charges regulated by little, if any principle at all, and to charges almost as variable as those for letters used to be before the advent of the penny post. Almost every metropolitan railway has a different scale.

2. Circumstances of late years have caused me to watch with interest the progress of the post office and of the railway system, and I think it may be shown that the time has now arrived when the question will soon be practically settled, whether the government, thro' the agency of the post office, or the railways themselves, will assume the conveyance and systematic delivery of small parcels generally throughout the kingdom. At the present time, the traffic of small parcels is managed by three great independent agencies, antagonistic in interest to each other—the post office, independent carriers, and the railways: not to mention that amount of traffic which is carried on illicitly in one sense by enclosing many small parcels in one large one.

3 Already the post office has attracted to itself the carriage of all small parcels which are sufficiently valuable to bear the rates of postage. The post office undoubtedly obtains *all* legal documents. Besides, all those parcels on which the post office charge is cheaper than that of the railways, fall into the hands of the post office, as in the case of parcels sent long distances: thus, for a parcel of the weight of a quarter of a pound sent from Cornwall to Inverness, the postage would be 8l., whilst the railway carriage would be at least 4s. Many other parcels go through the post because the opportunities for receipt and delivery by the post office agencies are more facile and certain. And it may safely be assumed that the post office attracts to itself almost all parcels whatever the postage of which is under 6d., that amount being the *lowest* sum for which any parcel can be despatched by the metropolitan railways.

4. The carriage of parcels by the post office was a novelty introduced by the plan of penny postage. Before the year 1840, the post office was accustomed to take no parcels but of stamps and of documents for the public departments. But the cheapness of the rate and the adoption of a system of charging by WEIGHT by the post office, having created for that department a large and daily increasing parcel business. It must not be forgotten that a parcel post is entirely a novelty of our own times. So great a novelty, indeed, did it seem to be, that it was denounced by certain post office authorities themselves at the outset of the penny post as "illegitimate" correspondence.

5. When this change came about, railways were developed in a very moderate degree. The immediate result of the new postage system was to create for the post office a small parcel business, in which the post office was able successfully to compete with the old stage coaches and mails, by offering greater economy, safety, and, in many cases, greatet expedition. Seven years ago it was a marvellous boon to the public to enable them to frank a parcel of a pound in weight for 2s. 8d. from Land's End to Inverness, or from Dover to the West of Ireland; and the consequence was, an instant transfer of the small parcel trade from the then accustomed channels into the hands of the government.

6. Circumstances were peculiarly favorable to the change at that period, for the traffic of the country was vibrating, as it were, between railways, canals, and coaches; so that, all these interests being in a state of transition and hostility to each other, the small parcel trade was quietly taken possession of by the government, without an audible murmur of opposition from any of the interests most affected by the change.

7. The experiment of adopting a uniform rate of charge by weight has proved to be most successful. It would be an idle dream to believe in its recall; and it is quite clear that circumstances will force a very great extension of the principle of a parcel post at no distant day.

8. The parcel post is decidedly the most profitable part of the post office business. It is also conducive to public convenience in the highest degree. In due course, these circumstances alone would effect the extension of the system. But the railway interest should be reminded that there exists a distinct pledge from the energetic and talented post office reformer, Mr. Rowland Hill, more than once officially repeated, that the carriage of parcels, *without limit as to weight*, and at a LOWER RATE even than a penny per half-ounce, is a feature of his postage plan.

9. In Mr. Hill's correspondence with the treasury in 1843, (p. 25,) among "the measures for affording increased facilities for post office distribution" remaining to be carried out are enumerated:—"An increase in the allowance of weight, say 2 oz. for a penny, in all district posts." This is repeated at p. 6 of "Requisites for the completion of Mr. Rowland Hill's Plan of Post office Improvement," published by C. Knight, 1843. In the same correspondence, at p. 26, we find Mr. Hill insisting on "the relaxations of the present restrictions as to weight. The establishment of a PARCEL POST AT REDUCED RATES, SIMILAR IN SOME RESPECTS TO THE BANGHY POST IN THE EAST INDIES."—At "*reduced rates!*" The restriction to the pound weight to be relaxed, and not only is this to take place, but the "rates are to be reduced." Nothing can be clearer in intention than this. And Mr. Rowland Hill is not the man to abandon a good intention when he has once promulgated it. The carrying of the penny post is a sufficient token of this. His patience and perseverance are as great in their way, as those of a North American Indian, abiding the advent of his foe. It should also be remembered, that Mr. Rowland Hill, from his official capacity in the post office, is now in a position to effect his own proposals, and we may assume with perfect confidence that most assuredly he will do so. Do not forget, also, that when once the public mind is sufficiently alive to Mr. Hill's intention, as it will be in due time, the public will assuredly support Mr. Hill, and demand the extension of the parcel system through the post office. Your own columns have already recorded the fact that an act of parliament has altogether removed all former restrictions as to weight, formerly limited to 16 oz; and the same act provides, that in all cases in which "the British postage chargeable *on any letter* sent by the post shall *exceed the sum of one penny*," the treasury "may REDUCE SUCH POSTAGE to ANY OTHER RATE they may from time to time think fit." So that parcels might henceforth be taken by the post office at 1d. per pound. Let not railway directors supinely imagine that this act is going to remain a dead letter with Mr. Hill, acting as secretary to the postmaster general. It is not for Mr. Hudson to indulge in any such daydreams.

10. Not only has Mr. Hill a very positive intention of relaxing the restrictions on weight and reducing the rate of charge, but he has also very decidedly manifested intentions of establishing more frequent mails on railways.

When chairman of the Brighton railway, he pursuaded his company to take four mails daily to Brighton without charge to the government. Moreover, coupled with Mr. Hill's intention of getting more work out of railways, we have evident signs that government purpose to pay their own price, *i. e.*, to pay LESS FOR IT. Railway interests hardly need to be reminded, that Mr. Strutt actually proposed to make a government board resolve absolutely and definitively what government should pay to the railways for the carriage of the mails!

11. The obvious tendency, then, of present circumstances, is to compel the railways to perform the mail service for next to nothing. And when this is accomplished, the post office will successfully compete and carry off all the small parcel trade, whilst the public, not too tenderly disposed to railways, will look on and applaud lustily!

12. The post office certainly will carry out this scheme for the public, to the injury of railways. But cannot the railways plan another, and as good, or perhaps a better one for the public, and for their own great profit and popularity beside? I think they can.

13. What then should the railways do? Ought the railways to remain passive and submit to the total abstraction of their small parcel trade, or ought they to compete with the post office, and show that they can conduct it as cheaply, or even more cheaply—that they will not only keep what they have, but actually regain what they have lost, and generate besides a new and illimitable species of traffic? The carriage of small parcels may be said to be by far the most profitable part of railway receipts. It will be sufficient to examine the receipts of any one established working railway, which may be assumed to be a fair average of all, to prove this. All parties will agree that no better illustration can be taken than the London and North-Western railway.

14. Without pledging myself to the positive accuracy of the following accounts, I believe that an analysis of the accounts of the London and Birmingham railway for six months, ending the 31st of December, 1845, will be found to show that the profits on small parcels were at the rate of as much as 80½ per cent, being the very highest rate of profit on all kinds of traffic, as appears by the following table:—

	Per centage of charges to receipts.	Per centage of profits to receipts.	Proportions of profit taking the whole at 100
1st class passenger,	33·32	66·68	31·60
2d " "	29·91	70·09	28·96
3d " "	29·16	70·84	9·35
Horses	61·21	38·79	0·97
Carriages	81·22	18·78	0·29
Parcels and dogs	19·63	80·37	7·33
Post office	36·21	63·79	1·46
Goods and coals	35·20	64·80	17·16
Stores			
Oxen	43·76	56·24	1·22
Sheep	26·16	73·84	1·30
Pigs	39·93	60·07	0.36

15. The receipts and charges of the London and Birmingham for six months, ending 31st of December, 1845, per mile apportioned to respective items of traffic, are shown to have been as follows:

	Receipts.	Charges.	Net receipts per passenger, etc.
	d.	*d.*	*d.*
1st class	2·495	0·831	1.664
2d "	1·628	0·487	1·141
3d "	1·000	0 292	0·708
Horses	4·559	2·815	1·784
Carriages each	4·882	3·965	0·917
Oxen	0 849	0·371	0·478
Sheep	0·158	0·040	0 118
Pigs	0·151	0·003	0·091

Profits from Goods, Parcels, and Post office, per ton per mile.

	Receipts.	Charges.	Net receipts per ton, etc.
	d.	*d.*	*d.*
Goods	1·726	0·608	1·118
Parcels	18·166	3 566	14·600
Post office	9 995	3 619	6·376

16. The first table also shows that the proportionate profit on parcels is as much as 7½ per cent. of the whole profits of that line. Considering the length of this line (112 miles,) the time it had been worked in 1845, and its excellent management, its profits on parcel carrying may be taken as a fair average either of what railway parcel business is, or is likely to be. Surely railways cannot be prepared to surrender this 7½ per cent. of profit, or even so much of it as may be supposed to belong to the carriage of the smaller parcels, to the post office, without some effort to keep it.

New York and Boston Air Line and the Hudson River Railroad.

We have before us the reports upon these two important lines, the first by E. F. JOHNSON, and the latter by J. B. JERVIS.

These lines are peculiarly situated—both being *rivals* to the two cheapest routes, of equal length—for *two-thirds* of the year, in the country; it is therefore necessary that they should be constructed in the very best manner to compete successfully with the present lines to Boston, and the Hudson river.

The "air line," as it is termed, has to cross the Connecticut river at Middletown, and of course, it has to contend with a strong opposition from Hartford, and others interested in the railroads to be affected by its construction.

The report of Mr. Johnson is drawn up with his usual ability and cleanness—and, as it discusses the subject of grades and curves, and compares this line with another now in successful operation—as well as the subject of *draw bridges*, we propose to give a considerable portion of it, that the advantages and disadvantages of the line may be compared by our professional readers, and others, if any, who doubt its success—which we do not if it is properly constructed.

In distance, grades and curvature, it has the advantage of the Hartford and Springfield route, but not in the total amount of rise and fall—which is on the Springfield route 3,150 feet rise and fall—equal to an *average* of 19½ feet per mile—while on the air line the total is 4,100, feet rise and fall, or an average of 30 feet per mile—yet Mr. Johnson makes it out decidedly the best route for the traveller, and equally as good for the stockholder.

We will, however, give Mr. Johnson's arguments in his own language, which we could not improve upon if we tried.

The report of Mr. Jervis is equally interesting and important on the subject of *grades*, as his line has even a more powerful competitor in the Hudson river boats than the "air line." Above Fishkill Landing he has two routes between which to choose—one with grades of 17 feet, and the other with grades of 10 feet; on the first the *total* rise and fall is 1,051 feet, and on the other 153 feet, and it therefore becomes a serious question between the people occupying the more elevated ground, and those residing on the margin of the river and the lower grade, which line to adopt. To enable the directors to decide this question, Mr. Jervis goes into an able investigation of the subject of *grades* and traction—showing the great advantages of the lower line over the upper; and as we are satisfied that these investigations, by such men as Mr. Jervis and Mr. Johnson, will be useful to the cause, we shall also give such parts of Mr. Jervis' report as bear upon this subject, at an early day, but as we received that of Mr. Johnson first, we commence it in this number. He says:—

The point in the City of New Haven, selected as the most suitable for the commencement of the surveys for the New York and Boston railroad, is the intersection of the survey made for the New York and New Haven railroad with the New Haven and Hartford railroad, at the west end of the railroad bridge over Mill river, near the eastern limit of the city.

From this point towards Middletown, two routes are practicable. One passing from the Quinnipiac to the Farm river valley, and thence by the valley of West river, to Middletown, through North Branford and Durham, following near the turnpike between New Haven and Middletown, being the same route surveyed by Mr. Twining for the New Haven and Hartford railroad in 1835, and represented upon the large map of his survey. The other pursuing a more northerly and direct course, following the valley of Mud creek, a branch of the Quinnipiac river, thro' the eastern part of Wallingford, to a depression in the ridge, which separates the waters of that stream from those of the Connecticut river, known as Reed's Gap, in the southwest part of Durham, and thence intersecting the first line in the valley of West river, in the southwestern part of the town of Middletown. From thence keeping the valley of the West river, upon its east side to the Connecticut river, near the ferry in Middletown.

From the crossing of the Connecticut river eastward, the line as surveyed keeps the general direction of the Colchester turnpike, (crossing it several times,) for about ten miles, when it enters the valley of the east branch of Salmon river, in Chatham, which it follows to its source near the dividing line between the towns of Hebron and Lebanon.

From thence it descends along the valley of the Ten Mile river, a branch of the Willimantic river, and crosses the latter near the village of Willimantic, which is situated in the town of Windham.

From this village the survey was carried along the valley of the Natchaug river, (a stream which, when united with the Willimantic river in Windham, forms the Shetucket river,) for four to five miles, thence passing to a depression in the ridge on which the village of Hampton is situated, which

separates the waters of the Natchaug from those of the Little river, a tributary of the Quinnebaug.

From this point, two routes were examined to the Rhode Island line, one passing through Brooklyn and Danielsonville; the other pursuing a more northerly course, both uniting before reaching the Rhode Island line, at a point east of the Quinnebaug river, in the valley of the Five Mile river, a tributary of the Quinnebaug from the east.

The termination of the survey, at the Rhode Island line, is near the northeast corner of the town of Killingly, and near to a depression in the ridge, which separates the waters of the Quinnebaug river from those of the Blackstone and Ponagansett, or Pawtuxet, in Rhode Island.

This summit is the lowest point in the dividing ridge for some distance north or south, and in a topographical view, is the only suitable point for the location of a line passing by the most direct course "towards Boston."

The Rhode Island line is as far east as instrumental examinations have been made, under my direction.

The general course of the line as described, is very direct. The greatest deviation from a straight course, is at the crossing of the Connecticut river, reddered necessary, principally, by the impracticability of the ground in the vicinity of the river, which can only be avoided by a deflection to the north or south, the former involving the least sacrifice of distance, and of other considerations.

The impracticable ground referred to, is the continuation south of the Connecticut river, of a primitive range of elevated ground, forming the eastern boundary of the Connecticut valley to the north, and through which the river flows, the opening affording a passage for the railroad, requiring in consequence a much less maximum elevation to be overcome, than would be the case upon any practicable line or route, lying across the samo range at any point farther north, either in Connecticut or in Massachusetts.

The general features of the line as surveyed, are indicated by the following elevations above tide water of the more prominent points.

Line at point of starting at New Haven above tide water	20 feet.
Reed's Gap	345 "
Connecticut river	35 "
Highest point between the Connecticut and Willimantic rivers	490 "
Natchaug valley	191 "
Highest point between the Natchaug and Quinnebaug rivers	542 "
N. crossing of the Quinnebaug	248 "
State line near Rhode Island summit	500 "

Total distance 83 1-10 miles.

Sufficient examinations were made to show that a more favorable position could be obtained for the line at several points, than was adopted in the survey. * * *

The gradients upon the line, as surveyed, vary from a level to fifty-five feet per mile, ascending and descending. The extent of gradient exceeding fifty feet per mile, is nine and three-fourths miles, in planes averaging half a mile in length, each, two miles of which is ascending towards the east, and seven and three-fourths miles descending in the same direction. The line where the highest grades occur, is free from curvature. Three miles nearly of this portion is upon side lying ground, and may be reduced below fifty feet per mile, without adding to the cost, and the whole may be brought down to that limit, without very greatly adding to the expense of construction.

These rates of inclination are fully within the safe and effective range of locomotive power, as will be evident from the fact, that gradients of fifty feet per mile and upwards, are to be found upon several of the prominent railroads of the country.

Upon the Western railroad in Massachusetts, the maximum inclination of the gradient east of Connecticut river, is 66 feet per mile, and upon the portion west of the river it is 83 feet and over per mile. Upon the New York and Erie railroad there are several places where the gradients rise to the height of sixty feet per mile, and there are very many other roads, where the maximum gradient exceeds fifty feet per mile. Upon the New Haven and Hartford road, the maximum grade is 48½ feet per mile. The favorable character of the line of the survey, is owing to the circumstance of its following the valleys of streams of the second class, which fortunately lie in the proper direction; a remark also applicable to its continuation eastward, through the states of Rhode Island and Massachusetts.

As it respects curvature, the line as surveyed, will compare favorably with the main lines of railroad in this country. The proportion of straight to curved line is as two to one, and the minimum radius of curvature is 1,100 feet. Curves of 1,000 feet radius are to be found upon most railroads. Upon the Western road in Massachusetts, the minimum radius of curvature is 882 feet. Upon the Boston and Worcester it is 600 feet. Upon the Springfield and New Haven 477½ feet. Connecticut river road 900 feet.

The character of the ground for the entire distance, is well suited to the construction of a road bed of a firm and durable character. The excavations in earth, are mostly in gravel and sand, or in a gravel and sandy loam, with but little clay, and very little cemented material or hard pan. The cost of earth excavation can, therefore, be ascertained with more than the usual degree of precision.

A similar remark will apply to the excavations in rock. From New Haven to the eastern base of Portland hill, in Portland, 25 miles, the rock is of a red sandstone, with the exception of a short distance where trap occurs in the ridge at Reed's Gap. The sandstone is very easily excavated. From Portland hill to the east line of the state, the rock is mostly of a uniform character, being what is termined granitic, and for rock of that description is not very difficult to excavate.

The streams crossed by the line of the survey, are all of rather small dimensions, with the exception of the Connecticut river. They are intended to be passed, most of them, by means of substantial stone culverts; and in the cases where bridges are needed, the estimate supposes them to be supported upon permanent stone piers and abutments, with the exception of the two over the Quinnipiac river. Aside from the Connecticut river bridge, the total cost of all the perishable material, which enters into the formation of a single track road bed, for the whole distance of 83 miles, will not exceed twelve thousand dollars.

The streams are supposed to be crossed at such a height as to obviate all danger of injury to the bridges and culverts from floods, and with few exceptions, provision is made in the estimate, for crossing the highways at a higher or lower level, so as to avoid danger of collision with vehicles passing upon them. Chestnut and oak timber for the purposes of the road, can be obtained from the section of country near the road, at a reasonable rate; and the rock taken from the excavations, whether it be sandstone or granite, is well suited and convenient and ample for the structures upon the road.

The estimate of quantities of excavation and haulage, have been made from measurements upon the centre line, with such allowance in particular cases, as the shape of the ground seemed to require. They were predicated upon a width of not less than fifteen feet in embankment, with sufficient additional width in excavation for drainage, etc. The slopes in earth have an inclination of 1½ to 1, and in rock of about ½ to 1. The estimate of quantities and the prices, are designed to be ample for accomplishing the work in the best manner.

In making the estimates of cost of graduation and mechanical work, the line is supposed to be arranged into sections or divisions, numbering ten in all.

We omit the details of the sections, and merely give the totals and the estimated cost.

Total earth excavation 4,658,700 cub. yds.	$789,157
" rock " 275,400 "	238,070
" masonry 19,954 cubic yards	75,488
Superstructure and bridges	19,910
Clearing and grubbing	21,840
Fencing	52,302
Total	1,196,867
Add Connecticut river bridge	100,000
Total graduation, masonry and bridge	1,296,867
87 miles of single track, (rail 60 lbs. per yard, $73 per ton,) $10,000 per mile	870,000
Land for roadway and depots, buildings, and interest on instalments	140,000
Engineering and miscellaneous, including several road crossings, the position of which not being definitely ascertained, they are not put down in the estimate of sections	80,133
Total for road	2,387,000

Equal to $28,724 43 per mile.

The expenditure necessary for equipping the road with the requisite number of cars and engines, is estimated as follows:

11 eight wheel locomotive engines, $8,000.	$88,000
18 passenger cars— eight wheels, $1,800	34,200
6 baggage cars, eight wheels, $950	5,700
50 freight cars, eight wheels	36,000
38 freight cars, four wheels	14,100
	178,000
Add estimated cost of road as above	2,387,000
Total cost of construction and equipment.	2,565,000

Equal per mile to $30,866 42.

The rail assumed in the preceding estimate is of the heavier kind, weighing sixty pounds to the lineal yard, and the track is supposed to be of the ordinary width. In view of the character of the road as forming a portion of the great main line of railway between New York and Boston, on which the highest practicable degree of speed and accommodation is required; and in view also of the fact that there has been from the first a progressive increase in the weight of engines, which is likely to continue upon the main thoroughfares, the adoption of a rail heavier than any rail now in use, and other improvements in the plan of construction is recommended. The addition to the cost of the road, in consequence of such a change, including a farther reduction of curvature at particular points, would not, it is believed, exceed the sum of $1,000 per mile, which, if carried out by the co-operation of other companies forming parts of the same main line, would conduce greatly to the interest of the stockholders and the benefit of the public. Upon this subject it is my desire to present to the company, at a future time, my views more in detail.

As the subject of bridging *navigable rivers* will often come up, we give Mr. Johnson's views at length.

With respect to the crossing of the Connecticut river, the facilities for the erection of a bridge at the place proposed, are probably greater than at any other point. for some distance either north or south.

Immediately above the site of the bridge, on the Portland side, are the extensive red freestone quarries, from which, for many years, have been sent large quantities of building stone of a superior quality, to the cities of New York and Boston, and elsewhere.

Stone of large size well adapted for the piers and abutments of the bridge, but of a coarser variety than is suited for a distant market, are now lying ready for use, in much larger quantity than is needed, within a few rods of the crossing, and can be obtained at a very low rate.

The river, at the place of crossing, is divided by an island, into two channels, of equal width. The eastern one only is navigable, the other being closed by a pier extending from the head of the island to the west shore.

The dimensions of the river, etc., are as follows:

Width at ordinary low water	1650 feet.
Greatest depth of navigable channel	15 "
" Western channel	8 "
Mean depth at place of crossing	6 "

Width of navigable channel having ten feet depth of water at low water, 400 feet.

Course of main channel nearly north and south, and straight for two-thirds of a mile above, and the same distahce below the bridge.

Velocity of the current as measured during a heavy ice flood, 3¾ miles per hour. As the river is influenced by the ocean tides, as far up as a point ten miles above Hartford, or thirty miles nearly above Middletown, the force and velocity of the current at the latter place is, consequently, greatly diminished. So great is the effect thus produced, that when the river is very low, the spring tides produce an *upward* movement of the water at Middletown.

Height of ordinary floods at Middletown from 14 to 16 feet. Two extraordinary floods have occurred within the last 50 years, viz., one in 1801 and the other in 1843, in which the river rose from 20 to 22 feet.

The height or rise of the water above the bridge at Hartford, during floods, is ascertained to be from 5 to 7 feet more than the rise at Middletown.

Least width of the river at the Narrows below Middletown, 625 feet at low water. Greatest depth at same point 66 feet.

The ice disappears opposite the city of Middletown in the spring about ten days on the average earlier than at Hartford. From observations continued through eleven years, it appears that the navigation opens at Middletown in the spring one week earlier, on the average, than at Hartford.

Width of the navigable channel, near Butler's creek, below Middletown, for vessels drawing nine feet water at low water only 70 feet. The channel is so contracted at various places above Middletown, as to render it nearly impossible for vessels to beat up against a strong head wind. The bridge will be passed with very much less difficulty at such times, than some of the narrow portions of the channel above.

The number of vessels of the size of coasters passing Middletown during the season of navigation, to and from Hartford, has not exceeded ten daily on the average, during the past season. This includes steamboats running to New York. As respects any future increase in the number, the effect of the Hartford and New Haven railroad, when that road is relaid with the heavy rail throughout, and made suitable for carrying freight, must be considered. It may possibly be such as to prevent any great increase in the tonnage which the country above Hartford will furnish to the river. The expense of transshipment will be the same at New Haven as at Hartford; and to vessels running south and west, an extent of navigation will be saved more than twice the length of the railway, and whether running in that or any other direction, the difficult navigation of the Connecticut river, for fifty-five miles, will be avoided.

The length of time occupied by sail vessels in making the trip from Hartford to New York, Boston, Philadelphia, or Albany, and return, is from two to four weeks. For propellers, from six to twelve days.

Breadth of the largest sail vessels and propellers, navigating above Middletown, twenty-four to twenty-eight feet.

Average length of the navigable season at Hartford, from observations continued thro' eleven years, two hundred and fifty-seven days; the river is consequently not navigable for about one-third of the year.

The railroad bridge at Middletown, by the provisions of the charter, is to be erected under the supervision of commissioners appointed by the Superior court; the plan of construction to be such as they shall approve. The one assumed in the estimate, is believed to be unexceptionable, since it can be demonstrated that it will neither injuriously retard the flow of the water, or *materially* obstruct the navigation of the river.

The dimensions of the bridge, as assumed in the estimate, are as follows:

Length between abutments, 1,958 feet, or 308 feet more than the width of the river at low water. Height in the clear above low water, 28 feet; to be supported by ten piers, if a retractile draw is used, or eleven piers, if a revolving or pivot draw is adopted. The estimate of cost is considered adequate for either plan of draw. Both are practicable; but the latter is operated with the least power.

Width of piers at top six feet, with the exception of the two on each side of the draw, which are ten feet. Breadth of the centre pier for a pivot draw, twenty feet. The sides of the piers for six feet below the top, are perpendicular; below that point, they slope or batter outward, in the proportion of 1 to 12.

Distance in the clear between contiguous piers, 180 feet. Corresponding in this respect and in the size of the piers, with the railroad bridge across the Connecticut at Springfield.

Piers pointed at both ends, with the salient angle of the cutwater or starlings inclined so as to prevent the lodging of ice against them.

Area of transverse section of the river at highest flood, 47,260 square feet. Area of space occupied by the piers, etc., 3,020 square feet; equal to one-fifteenth part nearly of the transverse section, which will produce an acceleration of the current during a flood in the same ratio, equal to one-fourth of a mile per hour. This is upon the supposition that the section and depth is not increased by the slight abrasion of the bottom, produced by the acceleration. Practically, the acceleration will not, probably, exceed one-sixth of a mile per hour.

The difference of level requisite to give the acceleration of one-fourth of a mile per hour, is less than the one-thirtieth part of an inch. This, therefore, is the greatest possible rise caused by the obstruction presented by the piers, to the flow of the water during floods; an amount so small as not to be detected by the eye, or even by the ordinary modes of measurement.

With respect to the probable rise of the water, caused by the lodging of the ice against the bridge, the experience of the railroad bridge at Springfield, is believed to be conclusive, that no injury is thereby to be apprehended. The greatest ice flood known for fifty years, occurred in 1843, after the erection of this bridge, and there was, as I am informed, no accumulation of ice against it.

The contraction in the width of the river, two and a half miles below the city of Middletown, to an amount equal only to *one-third* of its breadth at the site of the bridge, is evidence that the bridge will not tend to aggravate any existing difficulty, so far as the stop-

page of ice is concerned. The formation of a dam of ice at the bridge, is not to be feared, even if the movement of the ice should be arrested by it, which is by no means probable, inasmuch as a rise of the water of a very few feet, would throw the floating ice onto the low meadows which cover many hundred acres, and which are situated just above the site of the bridge, on the west side of the river. The favorable position of these meadows, and of the Wangum meadows, two miles above, as a receptacle for floating ice, will be apparent from an inspection of the map.

The bridge, by the conditions of the charter, is to be provided with a draw, the opening presented by which is to afford a clear space or width for the passage of vessels of eighty-five feet. It is designed to cover the faces of the piers, on both sides of the draw, with elastic timber fenders placed vertically. These fenders will serve as cushions to receive the force of the vessel, when inclined to rub against the masonry of the piers. The tendency of the current being *from* the piers on either side, and the width of the draw so great, contact with its sides may, with ordinary care, be avoided. The draw is to be constructed wholly of iron, and the parts so arranged as to be easily adjusted. Its weight upon the retractile plan is computed at seventy-five tons. Upon the pivot plan it will be a little greater. The frame of the draw will, in either case, have a length about twice the width of the opening. In either case, also, it is to be moved upon solid iron ways, and supported upon wheels in such a manner as to avoid nearly all resistance from rubbing friction.

The resistance to motion will consequently be less than for the same weight on a level railway, or less than eight pounds per ton; probably not more than five or six pounds per ton, requiring a force of not more than four hundred and fifty pounds to overcome it, with something additional to put the draw in motion. If moved, as it can be, by two men, at the moderate rate of one mile per hour, it can be closed or opened in one minute. The fifty-four feet retractile draw over the Schuylkill is closed by two men, or opened, in one minute, and with extra exertion, in thirty-five seconds.

The draw may be operated by manual force, or by a small steam engine, which can be use for other purposes, when not required to operate the draw. The pivot draw is necessarily heavier than the retractile, but requires less power to operate. One with two openings of sixty feet each, in a road bridge on Long Island, is operated by a woman, and opened or closed by her in one minute. The draw in the new railroad bridge over the Housatonic, is being constructed on the pivot plan, with one opening of sixty feet, and the other of fifty feet.

The width of the draw in the proposed bridge over the Connecticut, is nearly *double* that of the largest steamers navigating that river; the widest measuring from outside to outside of wheel houses only forty-eight feet. It is, also *treble* that of the largest sized sail vessels and propellers. It is of unexampled dimensions, the widest known being only 70 feet. By the provisions of the charter, it is to remain open except when trains are passing; that is to say it will probably not be closed more than one hour out of every twenty-four. A sail vessel of twenty-two feet beam, capable of running within four and a half points of the wind, can beat through the draw against an ordinary current, with wind ahead, *without changing its course.* The customary mode of passing draws in such cases, however, is to change, or partially change, the course of the vessel in the draw.

There will be, however, but little occasion for passing the draw at such times, as the river above is navigated with the greatest difficulty, when the wind is adverse, by vessels ascending. The greatest number of sail vessels, *coasters*, that have passed the draw of the Schuylkill bridge in one day, is one hundred and eighty, and the draw remaining open on the average four and a half minutes for each vessel. The detention to the vessels was of course less than that.

The Schuylkill bridge has two retractile draws, one for the railway, and the other for the common travel, placed side by side. This latter, owing to the throng of vehicles, being near the city of Philadelphia, is closed at all times, except when required to be opened for the passage of vessels. The draw on the side of the railroad is closed only a few times each day, for the passage of trains.

There is no reason why sail vessels should experience any more detention at the draw at Middletown, than at the one on the Schuylkill. On the contrary it is evident there will be less detention at the former than at the latter, for the reason that it is more accessible, being in the centre of a wide channel, instead of at the extreme end of a bridge, under cover of a high bank, as is the case with the draw in the Schuylkill bridge. The draw is to be *thirty one feet wider* than the one on the Schuylkill. It will seldom be found closed on the arrival of vessels; the channel is straight and broad for some distance above and below; and there is no good reason to suppose that the detention to sail vessels passing up and down, will exceed *seven minutes*, on the average, to each vessel, which for a voyage of two to four weeks, (and the trips from Hartford to New York, Philadelphia, Albany and Boston, are seldom made in less time) cannot be considered other than as a very trifling inconvenience, and *cannot produce any perceptible effect upon the price of freight.* A similar remark will apply to steamers and propellers, with the exception that the detention and inconvenience resulting from the passage of the draw, will be less even than that of navigating the same distance, in places where the channel is narrow, inasmuch as the draw will be lighted at night, so that its precise position cannot be mistaken.

To enter a little more fully into the subject of obstruction to the navigation of the river by the proposed bridge, it may be stated, that if a navigable river is bridged in the midst of a city, the navigating interests of the portion of the city above and contiguous to the bridge, will be likely to be impaired for the reason that there will not be distance in which to obtain sufficient headway for the steerage of vessels through the draw in descending, and the anchorage above the bridge will not be as safe as below it. Add to this that vessels often receive and discharge their loads at different places in the same city, which it will be inconvenient to do, if a bridge intervenes in passing from one dock to another.

The portion of the city above the bridge, is presumed to have precisely the same relation to the business of the adjoining country as the portion below. The inconvenience of passing the bridge and the draw, although it may be comparatively slight, is quite sufficient to turn the scales in favor of the part below. But when a place is situated far enough above, to be clear of the evils named, of close proximity to the bridge, and in a position to command the business of an entirely different range of country, the injury caused by the bridge resolves itself into the mere delay in passing the draw, as compared with the whole time in which trips to prominent points are made: which, in the case of the proposed bridge at Middletown cannot, as shown above, produce any sensible difference in the time of making the trips, or any perceptible injurious effect upon the business of a place so far removed from Middletown, as is the city of Hartford. It most certainly will produce no injury which can justify a successful opposition to a bridge which is indispensable to the best interests of a large portion of the people of the State, and to the accomplishment of a work which is more truly national in its character, than any existing or projected line of railway in this State, or in New England.

The examples most likely to be adduced of the effect of draw bridges, upon places situated above them, by those inclined to dissent from the view taken above, are those of the bridge over the Hudson river at Troy, and over the Passaic river at Newark, New Jersey. These bridges are, however, in no respect parallel cases to the proposed bridge at Middletown. In neither case is there any considerable extent of even tolerable navigation above, which would render it very desirable for vessels to ascend, if the bridges were removed. This is evident from the fact that in both cases, canals from the interior were made to terminate some distance below where the bridges have *since* been erected—showing, conclusively, that they are above the limit of good natural navigation.

To be Continued.

Nashville Railroad.

The Chattanooga Gazette says: "the amount of private subscriptions to the Nashville and Chattanooga railroad is now $1,800,000. The board of directors are endeavoring to get the legislature to appropriate $500,000 more, to enable the State to obtain the subscription of $1,000,000 from the cities of Charleston and New York. Mr. Stevenson and Governor Jones have both addressed the members of the legislature on behalf of the road."

Substitute for the Fan Blast.

Possibly the following extract from the proceedings of the Institution of Mechanical Engineers, may be interesting to some of our readers.

The paper read by the secretary was from Mr. Clift, "On Jones's Gas Exhauster, a substitute for the fan blast."—It was as follows:—"Jones's gas exhauster is a machine invented for the purpose of taking the gas from the retorts as fast as it is generated, and forcing it into the gas holders, in order to relieve them of the backward pressure. It has been at work for the last four years in many large manufactories with great success, and it has occurred to me that it might be used with equal advantage as a substitute for the fan, in blowing cupolas or smithies. The machine consists of a spheroidal case, flat sided, into which are fitted two revolvers of a peculiar shape, which turn on separate axes, and are so fixed in relation to each other that in every part of their revolution there must be a complete separation between the air on one side of them and that on the other. Motion is given to these revolvers by means of a pulley upon the axis of the lower one, on the other end of which axis is a toothed wheel, working in another toothed wheel of equal number on the end of the axis of the revolver, thus causing them to work in perfect uniformity. The action of the apparatus is precisely that of two pistons working within two chambers alternately opening and closing, and delivering at each revolution a quantity of air equal to the contents of each chamber. As there are no data of the quantity of air a fan of a given size will discharge, I cannot compare the efficacy of the exhauster with it; but when I see that the best constructed fan, at its great velocity, will only maintain a density of air equal to a column of water of 10 in., or a pressure of about 15 oz. on the square inch, and that the exhauster will maintain a density of 50 in., or about 75 oz., on the square inch, and that with a comparative small amount of power, I am led to believe that some advantage exists in the exhauster over the fan. In an experiment I recently made with an exhauster, 2 ft. by 1 ft. 6 in., and 1 ft. thick, I found I could discharge 30,000 cubic feet of air per hour, with a constant resistance of 15 oz. on the square inch. This (according to the theory of re-smelting iron in a cupola which allows 36,000 cubic feet or 2,700 lbs. of air to one ton) would be nearly equal to 1 ton of iron per hour, and with an expenditure of not more than 2 horse power. This quantity, of course, could be considerably increased by using a larger sized exhauster. Mr. Clift observed that it was a spheroidal figure, in which curved figures were revolving in different directions, and the air being admitted was thrown into the receiving chamber at every revolution. Each revolution throws out a portion of air equal to the chamber.—Mr. Buckle affirmed that the revolver would not answer if driven with spur wheels, as the rate of velocity required to produce any great amount of pressure, and quantity for cupolas or smelting purposes would endanger the safety of the wheels.—Mr. Clift replied, that Messrs. Elkinton, Mason & Co., of Birmingham, had been in the habit of using a fan for the blowing purposes of their manufactory, but had lately removed it, and substituted Jones's exhauster in its place; and they had found it to answer their purposes much better, as they had a greater density than formerly. He also stated that a larger one was in course of erection, and after it had been tried he would report to the institution the result."

Public Works of Ohio.

We learn, says the Baltimore American, from the annual report of the board of public works of Ohio, that the Ohio and Miami canals—the original cost of which was $5,732,755—netted to the State last year, after paying all expenses, an interest of nearly 7¼ per cent. Most of the money borrowed for the construction of these works was obtained at five per cent.

The canals of more recent construction, which cost the State $9,389,747; netted to the State last year, after paying all expenses, not quite 1½ per cent. on the sum named.

These statements only show, however, the direct results arising from the public works of Ohio. The indirect results are seen in the increased facilities which they afford the farmer for sending his products to market, and in the enhanced value of these products, as well as of the land in almost every part of the State.

Annexed are some views of the commerce of Ohio, as developed by the report of the board.

"In submitting the annual statement of the business of the canals, the board feel a pleasure in congratulating the State on a much enlarged income for the past year. The revenue collected on the different works has reach the aggregate of $805,020, against $612,302 received last year.

"The receipts for 1846, it will be remembered, exceeded the receipts of any previous year by $78,396. Those of 1847 exceed the last year $192,718.

"On the Ohio canal, the shipments of wheat and flour exceed those of any previous year by an amount equal to 991,213 bushels of wheat, the grand aggregate being 5,884,595 bushels. At Cleveland, the receipts of flour exceed those of last year 314,789 barrels, wheat 597,984 bushels, corn 824,347 bushels, coal 361,956 bushels, (about 12,000 tons,) wool 471,753 pounds, iron, nails and spikes 4,400,986 pounds, (2,200 tons,) the aggregate of these three last being 19,155,192 pounds, (nearly 10,000 tons. There is also an increase in the merchandise cleared at Cleveland of 3,848,500 lbs., (1,900 tons.)

"The steady and continued increase in the coal, iron and wool trade, is a source of congratulation to the country, as there are strong indications that they will soon stand among the first in importance, both as an item of business on our canals, and as a source of wealth and revenue to the State. The growing importance of the coal trade, especially, cannot longer be overlooked; and when we take into consideration the immense extent of country which will soon be dependent on eastern Ohio and northwestern Pennsylvania for its supplies of fuel, in connection with the great demand which the navigation of the lakes make on the same sources, there can be but little doubt that the coal trade will, before many years, stand second in extent to no other."

The following table of the articles arrived at, and clearing from Cleveland, in 1847, is interesting:

	Arrived.	Cleared.
Wheat and flour,	136,828	147 tons.
Coal,	42,451	236 "
Corn,	38,702	646 "
Pork, bacon and lard,	3,717	13 "
Iron (all kinds) and nails,	9,761	830 "
Lumber,	1,343	4,742 "
Salt,		5,924 "
Merchandize,	997	7,179 "
All other articles,	38,197	7,275 "
	271,977	26,992 "

The amount of tolls during the year ending November 15, 1847, was $452,530 76
The amount last year was 336,339 69

Being an increase over last year $116,191 07
About 34 per centum increase.

NOTICE TO CONTRACTORS.

PROPOSALS WILL BE RECEIVED AT the office of the Youghiogany Navigation Co., in the Borough of Westnewton, until Wednesday, the 23 day of February next, for the construction of the seams and locks upon the Youghiogany river improvement. Plans and specifications of the work may be seen at the company's office any time after the 18th of February. And any information in regard to the work may be obtained from J. E. Day, Engineer, at Pittsburg. The proposals will be addressed to the President of the Company, at Westnewton. By order of the Board.

ALEXANDER PLUMER, *President.*
Westnewton, January 28th, 1848.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1y

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

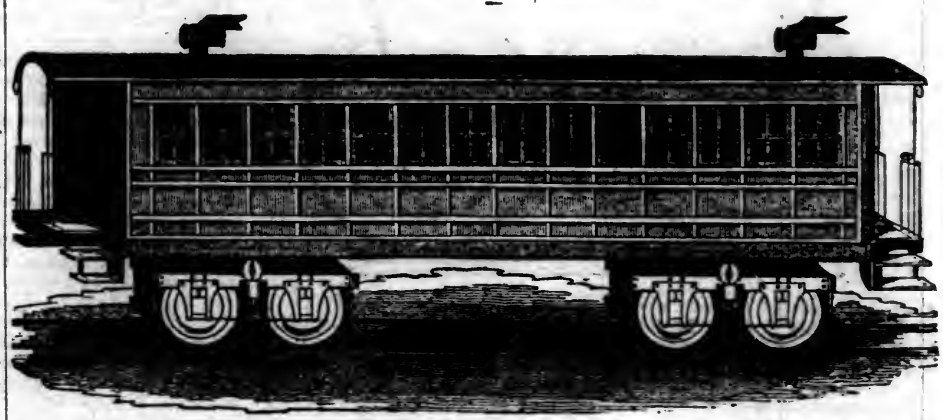
Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

GEO. W. TOWNS, *Governor.*
WM. L. MITCHELL, *Chief Engineer.*
Atlanta, Ga., January 24, 1848. [7t6]

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

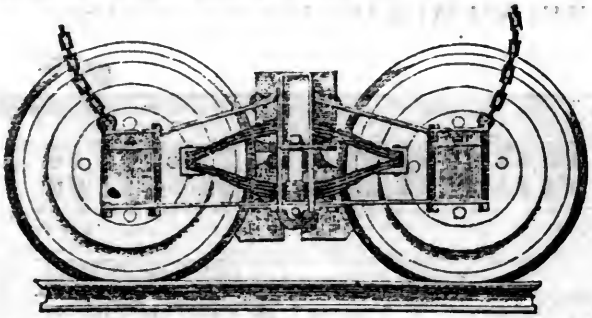
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
1tf Phiiadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO., *Agents.*
1y48 71 Pine St., New York.

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use..

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3¼	8	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¼	5	2	6¼	9	4	13¼	1-2	7¼
16	2¼	4	3	6	8	8	10¼	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANUFACTURERS of Railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

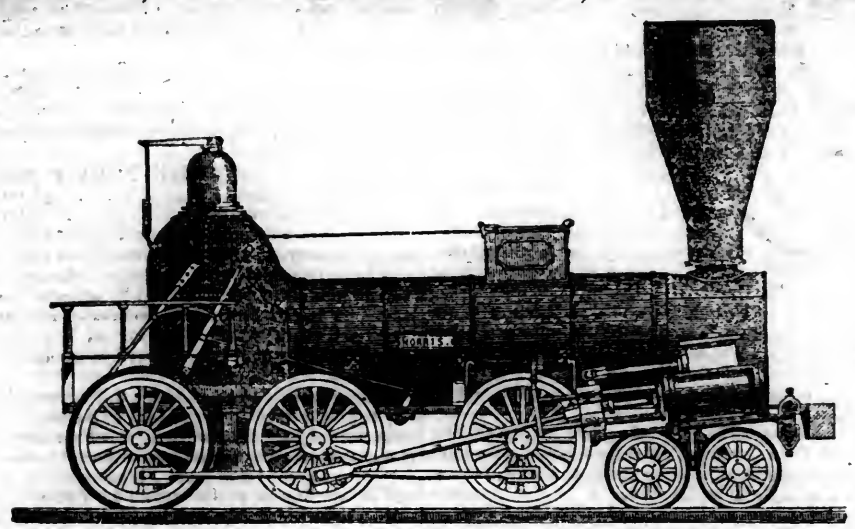
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

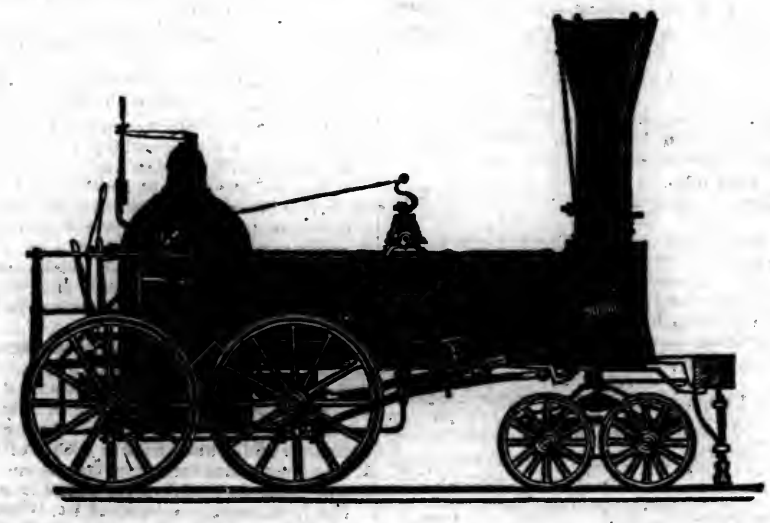
James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufactnre to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec,25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES. Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establi-hment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.

ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent*.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*.

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.


WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Super't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 23 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 18 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS. the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions han any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
5tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.
Albany at 7 1-4 a. m. and 5 p. m. for Boston.
Springfield at 8 1-2 a. m. and 1 p. m. for Albany
Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5¼ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10¼ o'clock, A. M.; Middletown at 11¼, A. M.; Goshen at 12¼, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4¼ a.m. Upward train arrives at Springfield at 2¼ p.m. Downward train arrives at Cincinnati at 10¼ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon			$1 00
"	"	" Xenia	1 50
"	"	" Springfield	2 00
"	"	" Columbus	4 00
"	"	" Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and 3½ p.m.
Arrives at	9 a.m. and 6½ p.m.
Leaves York at	5 a.m. and 3 p.m.
Arrives at	12½ p.m. and 8 p.m.
Leaves York for Columbia at	1½ p.m. and 8 a.m.
Leaves Columbia for York at	8 a.m. and 2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.

Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35 1y

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CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*

Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,

y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,

Chief Engineer.

Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

	Fares. Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12½ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p.m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., July 15, 1847. 44*1y

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

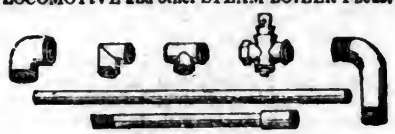
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

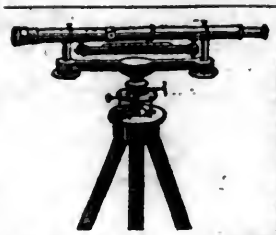
PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

LAP—WELDED WROUGHT IRON TUBES FOR TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER, and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ed barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJIH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No 9 | SATURDAY, FEBRUARY 26, 1848 | WHOLE No. 610, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, February 26, 1848.

Hudson River Railroad.

The Albany Evening Journal, of Monday, says: "a telegraphic despatch from New York announced on Saturday evening that the railroad route was settled—the *river line* was adopted, 10 to 2."

Illinois Canal.

This important work is progressing rapidly to its completion, and it is probable that it will be navigable, through its entire line, before the opening of lake navigation.

At its entrance into the river at Bridgeport, the works are very nearly completed, awaiting only the laying up of about one hundred yards of masonry. The summit division will, it is said, be completed in about four weeks. The Lockport, which is the next division, is already finished, including a fine basin at that point. Between Lockport and Juliet, (five locks intervening) the water has been let in. At Juliet the two spacious basins are filled with water. The level below is finished, reaching to the Dupage. The Dresden level is also in readiness for the water from the Kankakee feeder, and the feeder itself, including a fine piece of masonry, for the acqueduct across the Desplaines is finished—with the exception of a portion of the dam across the Kankakee, upon which a sufficient force is engaged to complete it at an early day. The lower levels, towards the southern termination are for the most part completed, with the exception of a little finishing up—and this completes the line. The superstructures, bridges, etc., are all ready, or nearly so, for use.

When thus finished, the Illinois and Michigan canal will be one of the finest in point of structure, as well as one of the most important to internal commerce, of any similar improvement of the country. It is 100 miles in length, and connects the great northern lakes at Chicago with the navigable waters of the Illinois river at Peru. Its capacity is 60 feet water surface, by 5 feet in depth, the locks being 18 by 110 feet within the chamber, and the entire work constructed at the cost of upwards of seven millions of dollars.

By the completion of this work, and the enlargement of the Erie canal, boats may clear at New York for St. Louis, and the "*Yellow Stone*," high up the Missouri, or New Orleans and the Gulf of Mexico—and thus increase the business of the lakes and Erie canal. A few years will give a new impetus to the business of Illinois, which will ensure the construction of railroads.

Georgia and South Carolina.

The Savannah Republican, of 12th inst., has the following remarks in relation to a paragraph which appeared in this Journal on the 29th of January. It is from an article on American railroads, by a gentleman who would not intentionally misrepresent the facts—and *especially* not misrepresent the State of *Georgia*—whose perseverance in the cause of railroads he has often, to our personal knowledge highly complemented. Nor can we—who have so often held up the works of this noble State as an example to others—be justly charged with intentional misrepresentation of facts, because we publish articles as written by our correspondents, without correction, when we are sure they do not intend to mislead.

We noticed, when reading the proof, that he had omitted to do justice to Georgia—an omission which, we take it upon us to say, was not designed by him—and which it was our intention to supply, by a note, but it was not attended to; and hence we have another evidence that the Journal is read, in Georgia at least.

By refering to the Journal of November 27th, and January 22d last, the works of Georgia—measuring over *six hundred* miles of railroad now in use—may be seen on the maps; we could not, therefore, after having *such* testimony, even if we would, willingly have withheld a just tribute of praise to Georgia, or any other State having done, and doing, as much as Georgia, nor were we aware that others indulged in such a course, as we seldom read controversies between rival *roads* or *cities*—endeavoring always to do what will promote the *general* cause of railroads, without fear or favor; and it has sometimes amused, as well as vexed, us to receive communications from *both* parties, intimating that they supposed, when they subscribed, that the Railroad Journal was an *impartial* journal; from which we are led to infer that our walk is pretty erect—so erect, indeed, that we may seem to lean back a trifle when they look us in the face.

The editor of the Republican says: "South Carolina is a most fortunate State—fortunate, because a most inexorable degree of fate gives to her not only all the credit of what little she has done in the way of internal improvements, but all, or nearly all, of that which is due to the legislature and citizens of Georgia for what they have accomplished.

"In the last number of that useful and excellent paper, the *American Railroad Journal*, published, as our readers well know, in Philadelphia, is a well-written review of railroads in general from Maine to Georgia, from which we clip the following extract:

"'*South Carolina*, one of the first States in the railroad field, is steadily pushing on her important work through Georgia to Nashville. Charleston will probably be the first Atlantic city that will have a continuous line of railways, to steamboat navigation on our western rivers.'

"It would be obviously wrong to hold an editor responsible for the errors of his contributors, but we are nevertheless somewhat surprised to see an error so often corrected, and so palpable, appear in the *Journal*, without some qualification. This *falsehood* about Carolina improvements in Georgia, has been most industriously and successfully circulated during the year or two past.

"It would give employment to a well-disciplined army of writers to keep pace with these mis-statements, and put them down as fast as they appear in print. The truth is, that neither the State of South Carolina, or the city of Charleston, nor any other portion of Carolina, has ever made a foot of railroad in Georgia, or expended *one sous* for railroads in this State. True it is, that since the great Charleston and Cincinnati scheme has failed, the city of Charleston has no other way of communicating with Tennessee than through our Georgia improvements. The great State work of Georgia, 136 miles long, was undertaken *by* the people of Georgia and *for* the people of Georgia. It strikes the Tennessee river, and has its southern terminus at Atlanta, where this main trunk ceases, communicating with two branch lines made by individuals. One of these lines passes through Macon to Savannah under the name of the "Macon and Western," and the "Central" roads, 101 miles, and 190½ miles long, respectively. The

other leads to Augusta, and is known as the "Georgia" railroad. It is 171 miles long. From Augusta the "Charleston and Hamburg" road, 136 miles long, leads to Charleston, and from the same point, the Savannah river (the navigation of which by steam has reached a point of almost perfection,) leads to Savannah, thus giving to this city, as far as Atlanta, two distinct lines of communication to northwestern Georgia and Tennessee. We must here add that the Charleston and Hamburg railroad was not designed as a part of this connection. It was built to save the declining fortunes of Charleston by tapping the Augusta trade, before the Tennessee business was dreamed of, by more than one or two speculative minds.

"It may be proper to remark in furtherance of these explainations, that our State work is completed to Dalton, 36 miles from the Tennessee river.—This last portion only wants a superstructure, the grading being all done. An appropriation made by the legislature in December last, secures the completion of the whole in two years. The railroad from the Tennessee to Nashville is not yet begun, nor are the requisite subscriptions obtained, though a considerable amount has been subscribed. If the State of South Carolina, or if the city of Charleston will assume the responsibility of constructing this line, then will they indeed be entitled to the distinction of "*pushing on*" an "*important work to Nashville*," tho' it will not be "*through Georgia*," but beyond the limits of Georgia. Then, we shall be ready and willing to award to Carolina and her citizens credit for doing something towards the great chain of improvements from Tennessee to the Atlantic coast."

Our correspondent "Georgia" will please consider this a reply to his communication of 12th inst.

British Iron Trade.

We copy from the Commercial List of this city the following important letter on the iron trade of Great Britain. It is from a source entitled to the highest respect, and it is of interest to our own manufacturers, and to the railroad interest generally, therefore we give it entire.

Correspondence of the Commercial List.

LIVERPOOL, JANUARY 15, 1848.

The year 1847 has been a remarkable period in the annals of commerce, and has left impressions behind it which will not be easily erased. It commenced with a fair promise of success to the mercantile community, and of comfortable employment for the operative classes, but has disappointed the expectations of both, and been attended with an intensity and prolongation of suffering such as has never before been experienced. The causes appear to have been the enormous importation of food, induced by the failure for the second time of the potatoe crop. The serious derangement of the balance of trade, and state of the foreign exchanges, in consequence, leading to a drain of gold, simultaneously with a most unprecedented and monstrous outlay for railway undertakings of a most gigantic character, and the stringent operation of the bank act of 1844, the powers of which, not always well timed or wisely applied, were exerted with crushing force to prevent the one, and check the other. The metal trade was not so early, nor has it been so seriously affected by these causes as the other branches of industry, and throughout the year prices have been steady, and in general, remunerative to the parties engaged in it. In consequence of the immense demand for railway purposes, and the comparatively high price which has prevailed for some years, the production has fallen short of the requirements, and stocks both at home and abroad have been reduced to a very low point; for it is well to observe, that the very great demand for labor in all departments, prevented, fortunately, the increase of the make to any great extent. Owing, however, to the inability of the railway companies to proceed with their works, and to the interruption to both home and foreign trade, by the derangement of monetary affairs, the prosperity of the iron trade received a severe check towards the close of the year, and prices have declined considerably in consequence. We will proceed to refer to the various branches more particularly, and give such information as can be relied upon, and will, we think, be useful in forming an opinion as to the future.

MANUFACTURED IRON was in extensive demand until very recently, and prices have been remarkably steady throughout the year. RAILS were purchased largely, both for home consumption and export, and occupied many of the works, almost to the exclusion of other descriptions of iron. The demand, however, fell off very much about October, and the price which at the beginning of the year was £9 10s., has declined to £7 10s. per ton. BARS have commanded an equal price from the limited production, but have declined in like proportion. Staffordshire BARS, HOOP, and SHEETS have been in active demand, and prices were very firmly supported; but that district has also been at last affected by the depression, and at the quarterly meeting of the trade, held yesterday at Birmingham, a reduction of 40s. per ton from the highest prices of last quarter day was agreed upon. In consequence of a strike of the workmen against a reduction of their wages, little iron has been made for some time in Staffordshire and Shropshire, (72 furnaces out of 164, are said to be out of blast;) and should this continue much longer, the deficiency of supply may prevent this decline from being generally submitted to, and at present few parties will sell subject to it.

It will be observed, from a reference to the following tables, that our exports to the United States have increased very much during the past year, especially in the finer descriptions of iron, affording a gratifying proof of the advantage derived from freeing trade from hurtful restrictions. The shipment from Wales direct to the States, have also been much in advance of any former year. To India our exports have again been light; as the stocks are now very low, we may expect considerable shipments will be made there, so soon as an active business can be resumed with that country, but which is very much interrupted at present by the numerous failures which have taken place.

EXPORTS OF IRON FROM LIVERPOOL IN 1846 AND '47, TO NEW YORK, BOSTON, AND PHILADELPHIA.

	Rails.	Bars.	Hoop and sheet.	
To New York in 1846	6,440	7,026	901	tons.
" 1847	6,642	20,546	4,855	"
Increase	202	13,520	3,954	"
To Boston in 1846	6,030	4,114	623	"
" 1847	5,813	13.583	1,670	"
Increase		9,469	1,047	"
To Philadelphia in 1846	41	1,667	162	"
" 1847	150	3,414	670	"
Increase	106	1,747	508	"

Exports of British iron to all India, in the years—1840. 1841. 1842. 1843. 1844. 1845. 1846. 1847. 27832 31179 21396 32689 31485 11973 8268 10976

Prices of bars December 31st, at Liverpool—£7 10s., £5 5s., £4 15s., £6 10s., £9 5s., £9 10s., £8.

Scotch pig iron has now become an important article in the metal trade, the make having increased within a few years, since the introduction of the hot blast, from about 40,000 to upwards of 500,000 tons per annum.

We call your attention to the following table of the exports, stocks, production, and prices, during recent years, which we have computed from the most authentic sources:

EXPORTS.

	1847.	1846.	1845.
France	21,836	35,567	10,674
Jersey	95	268	130
Holland	21,912	30,094	4,068
Belgium	376	505	
Germany	28,639	18,167	3,743
Denmark, Sweden, and Norway	3,416	2,480	624
Russia	962		20
Austria	1,158	386	182
Turkey and Egypt	531	260	565
Italy	5,108	5,695	1,795
Spain	1,703	2,703	212
Portugal	283	735	198
South America	1,343	538	250
West Indies	215	170	100
New S. Wales and India	1.458	606	734
British America	6,227	7,307	5,391
United States	44,993	13,918	25,915
China	175		
	143,460	119,100	54,671
Coastwise	227,005	257,851	
Total export	370,465	376,951	
Of which to New York	28,005	9,709	
" Boston	14,195	3,187	
" Philadelphia	1,321	285	

STOCK AND PRODUCTION.

	Stock.	Production.
31st December, 1845	220,000 tons.	400,000
" 1846	144,800 "	520,000
" 1847	90,000 "	545,000

PRICES.

1843.		1844.	
Jannary	47s. 6d	January	45s.
March	42s. 6d.	March	50s.
April	40s.	April	55s.a65s.
August	45s.	August	65s.a70s.
September	50s.	September	60s.a55s.
December	47s. 6d	December	60s.

	1845.	1846.	1847.
Jan'y...	65s 0da 70s 0d	76s 0da85s 0d	72s 6da77s 6d
Febr'y..	75s 0da 85s 0d	86s 0da72s 6d	74s 0da00s 0d
March.	107s 6da110s 0d	70s 0da75s 0d	
April..	120s 0da 00s 0d	64s 0da69s 0d	70s 0da67s 6d
May...	75s 0da 85s 0d	65s 0da72s 6d	68s 0da64s 0d
June...	60s 0da 80s 0d	64s 0da70s 0d	65s 0da00s 0d
July...	60s 0da 67s 6d	67s 0da73s 6d	67s 0da70s 0d
August.	65s 0da 70s 0d	72s 0da76s 6d	70s 0da67s 0d
Sept....	75s 0da 84s 0d	72s 3da76s 0d	67s 0da64s 0d
Oct....	85s 0da 95s 0d	70s 0da72s 6d	60s sda56s 0d
Nov....	75s 0da 67s 6d	70s 0da72s 0d	56s 0da48s 0d
Dec....	70s 0da 80s 0d	71s 0da75s 0d	48s 0da46s 6d

STOCKS.	Tons.
Stock on hand 31st December, 1846	144,300
Stock this date in stores and makers' hands.	90,000
Decrease	54,300

	1845.	'46.	'47.
Furnaces in blast 31st Dec	87	98	99
" out of blast 31st Dec	25	24	32
Total erected	112	122	131

And four new furnaces nearly ready.

	Tons.
Computed make in 1847	540,000
Add stock 31st Dec., 1846	144,300—684,300
Exports as above	370,465
Stock this date	90,000
Leaving for malleable iron, foundry consumption, etc., in 1847	223,835—684,300

The prices in the early part of the year, it will be seen, were 75s. to 77s. 6d. per ton; and it is well to be remembered that the quotations for Scotch pig iron are for mixed numbers, ordinary brands, and for net cash payment, free on board at Glasgow; but under the influence of the pressure in the money market, causing forced sales of speculative parcels, the price continued with little interruption, to decline throughout the year, until it reached the present figure, which is lower than at any period since January, 1844. Whilst the make has materially increased, the stock has declined about 55,000 tons; both of which mainly result from a lengthened strike of the workmen, and the alteration of the gauge of the mineral railway. No such causes of interruption are likely to occur this year, and a make of 600,000 tons may, we think, be fairly counted upon; for although the present low and unremunerative prices will check an extension of works, it will stimulate, in present circumstances, the production of the works already in operation.

The exports to foreign ports in 1847, exceed those of 1846 by 24.360 tons; while coastwise, they have decreased 30,846 tons; making a *decrease* of total shipments in 1847, as compared with 1846, of 6,491 tons. The United States have been of great support to us, having taken a large quantity in excess of former years. Europe took less, although the price was so much lower than in 1846. Owing to the ex-

tension of malleable iron works in Scotland, and the immense demand for castings for railway purposes, the home consumption has, until recently, been very large, probably not less than 6,000 tons per week. A sudden and serious check has, however, been experienced, and we estimate that about 3,000 tons per week less of pig iron is now consuming in Scotland alone, than there was in the early part of last year; and in England, the falling off has been also very serious, amounting probably to over 2,000 tons per week; whilst the export to the continent for two or three months will be suspended by the season of the year. We therefore calculate upon an accumulation of stock for some time to come, although the comparative low price may induce purchases to some extent, for prospective wants, and prevent the pressure of iron upon the market. Wages have been reduced to almost as low a point as they were at any former period; and as this enters so largely into the cost of production, it is an important consideration in judging of the probability of an advance in price.

As to the probable course of the trade in future, it is very difficult to form an opinion. It is true that the year has opened with brighter prospects than have been apparent for some time; but although money is more abundant and cheaper, confidence, which is the main spring of the business, cannot be restored for some time. Not only have the failures been numerous and heavy beyond precedent, but the full effect of them has not yet been experienced; and we fear that not a few houses, which are still struggling with difficulties, will be forced to succumb to their pressure, and keep business in an unsettled state for some months. It must further be remembered, so great has been the impoverishment of the mercantile community, that the means of speculation are not at hand, if the will were apparent; and it appears to us that the course of improvement will be very slow, which will be the best guarantee for its being sure. As the prostration of the iron trade is owing mainly to the suspension of the enormous demand for railway works, we can only expect a decided improvement in connection with the resumption of these public works; but all the companies are so much in arrears for work already done, and goods supplied, that we do not expect that they will get funds, either by loans or calls, to enable them for a good while to contract fresh obligations. At present we have not arrived at the minimum of consumption, old contracts being still worked upon, and new ones being exceedingly scarce.

Our trade is the last to suffer, and the last to improve, and whilst we are of the opinion that prices will not probably decline further, we do not think that an early advance is likely or desirable. The demand at present is very limited, but with the advance of the spring, we look for a good trade.

The following just and appropriate remarks of the editor of the Commercial List ought to be read by every Pennsylvanian—*every American*. He says,

"Our advices, we think, are calculated to throw more light upon this subject than all the recent publications that have yet appeared in this country. The iron masters and manufacturers in Pennsylvania are particularly interested in this matter.

In our publication on the COAL AND IRON trade of Pennsylvania last year, we said—'IRON is not only essential to the INDEPENDENCE OF NATIONS, it is equally necessary to their progress in civilization, in arts, in manufactures, commerce, and agriculture.' * * 'The materials out of which iron is made is in the ground of exceeding little value in this country, scarcely more than 1-20th of the value of pig iron. This great sum of from sixty to one hundred millions of dollars has been paid to American laborers annually, (instead of England.) It has supported an army of industrious men. It has been distributed in EVERY branch and department of our HOME INDUSTRY. It has promoted and sustained the progress of internal improvements, and all our ways of transportation. But the great mass of it has passed into the hands of the FARMER; FOR FOOD IS, AFTER ALL, THE GREAT ELEMENT OF THE MANUFACTURE OF PIG IRON.'

"These exhibitions of the extent of the COAL TRADE, and of its importance to the UNION, lead us to ask whether this interest has not a very strong claim upon the GOVERNMENT FOR PROTECTION AND ENCOURAGEMENT. If not, how could such a claim be conceived of as possible? What operations can be more intimately connected with the prime element of national growth and power? What political wisdom can discern the propriety of withholding the protecting power of the government here, unless it be that which denies altogether the justice and policy of any restrictions on the disheartening competition of other nations, which is fitted to keep back our own enterprises for centuries?"

We copy the following, also, from the Philadelphia Commercial List of 12th inst.

London, January 14, 1848.

There are several circumstances to induce us to think that the low prices of iron cannot continue longer than a few months. In the first place, the immense establishment at Dowlais, (50,000 tons per annum has been the make,) will be closed on the 1st of March. About 2,000 workmen were discharged the first week of this month, and the remaining 4,000 will be in the course of the next five or six weeks; a certain number being paid off every Saturday evening. In Shropshire, Staffordshire, and other iron districts of England, more than two-thirds of the works are stopped In Scotland, three-fourths of all the furnaces are out of blast. With these facts, and the prospect of *cheap money*, as the season advances, and the consumption of iron going on in a very extensive way, we think there is almost a certainty of iron not continuing for a long time so depressed as it is at present.

St. Lawrence and Atlantic Railroad.

We have received the second annual report of the directors and engineer of this company to the stockholders, made on the 19th of January last.

From the report of the directors we learn that considerable progress has been made in the grading and masonry, and that the first sixteen miles will be completed by, or in, the month of August next. The finances of the company appear not to be in quite as flourishing a condition as we could wish, owing mainly, we presume, to the depression in England; but the directors have acted very judiciously, under the circumstance, in curtailing the expenditure—by consent of the contractors—on those divisions most distant from the St. Lawrence: the intention being to complete the work as far as it is commenced, and thus make every dollar, expended in construction, available, a course certain to ensure the completion of the road.

This company will be able, by, comparatively, a small outlay in the construction of a branch to the line, at Stanstead, to open a communication with the Passumpsic River railroad, and thus with Boston, as well as with Portland, by the main line. And it will not be very difficult, when these roads are completed, for the people of Montreal to extend the railroad from St. Johns to a connection with the Ogdensburg and Champlain road, and thus open also a communication with New York city—and the interior of the State—thus giving a choice by railroad of *three* principal Atlantic markets.

The people of Portland and Montreal have undertaken a mighty work for so small a population; but, heavy as it is, they will accomplish it, for the reason that they commenced right at both ends, and also because it will, when completed, pay well. The fact, that produce can be delivered at Portland so cheaply from Chicago, will of itself ensure the completion of this work.

By referring to the engineer's report the plan of construction will be seen—heavy longitudinal sills, with heavy bridge rail, will make a substantial and easy road, both for machinery and passengers; and the mode of tiling the sills together is *admirable*, because *repairs* can be so easily made.

The annual general meeting of the proprietors in the capital stock of the St. Lawrence and Atlantic railroad company was held on Wednesday, the 19th of January, 1848, at the company's office, in the city of Montreal. The secretary read the annual report as follows:

ANNUAL REPORT OF THE DIRECTORS.

The report submitted to the stockholders at their last annual general meeting, detailed the measures adopted by the directors preliminary to the construction of the road from the St. Lawrence, near the village of Longueuil through St. Hyacinthe to a point in Acton, distant about 45 miles from this city, to be completed in the year 1848, in accordance with the resolutions of the proprietary during the fall of the then past year.

At the period of that meeting, contracts were entered into for the grading of the road to St. Hyacinthe with responsible parties, and subsequently to Acton, and from thence it was secured to Sherbrooke, at the option of the company, whenever their resources warranted such further extension; contracts were also made for the construction of a most important feature in the road—the bridge over the river Richelieu at the rapids of Belœil.

Previously to taking possession, it became necessary to purchase the right of way from the different proprietors of land along the line, which, in the first 30 miles, has involved a settlement with no less than 304 individual cases, arising from the nature of the survey of the land into long narrow farms, and the line of road almost invariably crossing them obliquely.

The directors have, however, the gratification to report, that 279 out of the 304 claimants have been settled with, and conveyances of the right of way to that extent are now in possession of the company; including the termini on the St. Lawrence and at St. Hyacinthe, and in the unclosed cases the terms are agreed upon, and it only remains to make the payments and execute the deeds in 25 cases, to complete the full legal possession by the company of the roadway from the Saint Lawrence to St. Hyacinthe, with the necessary stopping places along the route. This very arduous and responsible duty was devolved by the board in addition to his ordinary services, upon the resident engineer, R. T. Bailey, Esq., and they have every reason to be satisfied with the ability and zeal which that gentleman has manifested in its prosecution.

The directors refer to the report of the land commissioner laid on the table, for the detail of purchase and expenditure on lands and stations.

The board have further to state relative to the right of way, that the British American land company, through their commissioner, A. T. Galt, Esq, have engaged to make over to this corporation, gratuitously, such land through their territory as may be found necessary to the right of way, depots, stopping places, etc., with the exception of the town of Sherbrooke, and the directors take this opportunity to express their high sense of this unsolicited and generous donation.

Many circumstances combined to prevent that vigorous prosecution of the work during the past season intended by the board, and for which they had previously made every necessary preparation.

They were disappointed in the negociation of a loan in England; great difficulty was experienced in the collections in this country, and the hostile position assumed by the stockholders in England precluded the board from expecting financial assistance from further calls on the stock in that company for immediate purposes: nor were they able to avail themselves of the balance remaining in the hands of the London committee, who refused to place the amount at the disposal of this corporation until they shall be relieved from personal liability by legal decision on the pending actions.

This decision, it is expected, will be received during the present month.

The board, under these accumulated difficulties, deemed it prudent to curtail the anticipated expenditure, and accordingly made arrangements with the contractors to limit their proceedings in a ratio with the finances of the company, and the directors have the gratification to state, that their wishes were promptly met by the contractors, and without damage to the corporation.

Acting on these principles, the directors have urged the vigorous prosecution of the work in the first division between the St. Lawrence and Richelieu rivers—a distance of 16 miles. The rails for that distance are imported and stored at the company's terminus on the St. Lawrence, and the timber for the superstructure is deliverable in early spring; the grading is in an advanced state, and the directors have every reason to be confident, that it will be in full operation in August next. It is expected that the opening of this division will greatly facilitate the prosecution of the works on the further sections.

While anxiously desirous to complete the first division, the board have not confined the operations of the contractors exclusively thereto, but have continued at the same time to forward the work from the river Richelieu to St. Hyacinth, the grading of which division is in a state of much forwardness;—the heavy embankments on the easterly side of the river Richelieu to receive the bridge, being finished; and the principal masonry, including very important and expensive stone culverts in the different ravines, occurring at the base of the Rouville mountain, in gaining the table land from the river, being completed.

The causeway across the valley of Huron river, is in course of construction, and will be completed, or nearly so, during the winter; in fact, the principal and most expensive part of the work on the second division is finished. There are five miles on the easterly side of the Richelieu river, graded, out of fourteen —the length of the second division.

The timber for the superstructure of this division is contracted for by responsible persons, deliverable in August next; and the fencing of the road, including gates, from the St. Lawrence to St. Hyacinthe, is also under contract, to be completed at the same period, on very advantageous terms to the company.

The directors have made these arrangements, with the view of being enabled to place this division also in operation in December next or January of 1849, should the finances of the company permit; and that it be deemed advisable to import the necessary iron (1600 tons) during the approaching summer.

It was expected that the bridge over the Richelieu river would have been completed during the past season, but the high water last spring prevented an early commencement of the work, and a difficulty in obtaining laborers during the summer, still further retarded the operations of the contractor.

The foundation of the abutments, and of all the piers with the exception of two, are laid, and the masonry raised ten feet above low water; nearly all the stone necessary for completing the masonry is on the spot and dressed, with a large proportion of the timber and iron for the superstructure; and no doubt is entertained that this most important work will be completed in time for opening the road in August next.

The surveys for the prolongation of the road were commenced in May last at St. Hyacinthe, by one party under the command of W H. Vining, Esq., a gentleman of much experience, and have continued during the season to the 1st of December last. The results of the survey have been very satifactory, clearly demonstrating that no impracticable obstacle opposes the junction of the St. Lawrence and Atlantic railroad at the boundary line, but on the contrary that favorable gradients can be obtained. It is the opinion of the engineers, that further examinations will produce still more favorable results. Two routes have been surveyed, and the third remains to be explored previously to a final location.

The aggregate length of line surveyed during the season, has been about 150 miles, of which 70 miles are approximately located, 34 miles definitely located, and the remainder experimental lines.

The importance of the branch of the road from Sherbrooke to Stanstead, in connection with the Connecticut and Passumpsic rivers railroad company, being fully recognised, a survey was made during the season by order of the directors, and the most favorable issue reported as to the practicability of its construction, whenever the company are in funds to commence operations.

The preliminary measures and inquiries have induced much expense. The directors consider, however, that it is an outlay which is now returning, and will hereafter return, great advantages to the corporation as regards the character and capacity of the road when completed, and in the assurance that every advantage is and will be taken, of the natural capabilities of the country through which it passes.

The directors beg reference to the report of the chief engineer, A. C. Morton, Esq., laid on the table, for a more detailed statement of the work, as well as of the operations of the survey.

The application to the legislature for an act to amend the act of incorporation, alluded to in the last annual report, was duly made, and received the royal assent. Amongst the most prominent of its provisions, are a right to borrow money, to charge interest upon the calls in default, and to pay interest on the paid up capital. It contains right of ferriage to and from Longueuil, to and from the city of Montreal, and confers the privilege of using the contemplated bridge over the St. Lawrence, and having a terminus in this city, should the bridge be completed.

The act was in its passage through the legislature, trammelled with a restrictive clause, relative to the gauge, which for a period created much difficulty, but which has happily been disposed of by the action of his excellency the governor general in council, and the gauge is thereby finally determined at 5 feet 6 inches, pursuant to the original convention entered into between this and the Atlantic and St. Lawrence railroad company.

As connected with the act, it may not be irrelevant to invite attention to the proceedings of the special general meeting of the stockholders, called on the 20th September last, under its provisions, relative to the payment of interest, and to state that the treasurer is prepared to pay at this office, interest at the rate of 6 per cent. per annum, on the paid up capital, to such of the stockholders as are duly entitled, and as provided for by the resolutions of that meeting.

The directors have to record no addition of stockholders to their subscription lists, which stand precisely in the same position as at the last annual general meeting, while they regret that most unexpected commercial distress has for the present rendered it imperative to stay further calls upon the stockholders, until the spring.

This determination the board will endeavor to adhere to, and under much inconvenience, they are collecting the outstanding balance of four instalments called in, to meet the current expenditure.

The directors report that, with the view of giving an opportunity to the inhabitants of the eastern townships, to avail themselves of the advantages the railroad, when finished to Acton, will present over the ordinary routes to Montreal, application was made to the government for a survey of certain roads, being leading communications through the most populous portions of the eastern townships, having a common junction at Acton, and that an assurance has been received that the survey will be made, and an estimate of the cost returned.

These roads, when completed, will have the effect of lessening the present cost of transportation from that section of the country at least one half, in addition to the saving of time, which at present is a heavy per centage on the trade of the townships with the city.

In view of the anticipated business of the road, the directors state with pleasure, the fact, that the Connecticut and Passumpsic rivers railroad company are fast approaching towards the provincial line, and it is hoped that at no distant day that railroad will be connected with this route at Stanstead.

As respects the principal terminus of this railroad at Portland, the directors are happy to know that accommodations of the most

ample character are to be found at the Atlantic terminus, and freight may be transferred to and from the railway cars to and from vessels, without further removals.

Allusion was made in the last annual report to the movement in Maine, having in view the extension of the road in the direction of the lower provinces—the friends of the enterprise will be gratified on learning that the project has been pushed forward in Maine with the greatest success.

At a point 27 miles on this side of Portland, an embranchment of the great artery takes place, and the eastern line is under contract to Waterville, 55 miles from that point, a portion of which is to be opened during the coming season, and completed to Waterville in 1849.

Its further extension to Bangor may be confidently assumed, and the directors are informed, that an application has already been made for a right to extend it from Bangor to the boundary of Maine, in the direction of the city of St. Johns, New Brunswick.

Since the last annual report of the directors, events have occurred which must clearly demonstrate to every one familiar with the business of Canada, and more especially to the inhabitants of Montreal, the paramount importance to the interests of this province, of the completion of the railway to Portland.

A way to and from the ocean at all seasons of the year, capable of successfully competing with other routes, is indispensably necessary to preserve the mercantile community from the ruinous effects of being forced to purchase at the prices of several months anticipation of their sales, which brings them into that season of the year in England when speculation in the anticipation of a good or bad harvest create a greater uncertainty than the calculations of any trade to make it commonly safe, ought to be subjected to.

It is painful to dwell upon the losses sustained by this community during the year just passed, for the want of this communication with the ocean—losses at least equivalent to one-half of the cost of the road; and the board only allude to them with the view of showing, prominently, the practical benefits of the St. Lawrence and Atlantic railroad when completed.

Prospectively, they consider it to be the first step to secure the completion of the Quebec and Halifax railroad, forming, as it will, a portion of that route for a distance of 70 miles from Montreal to Melbourne, and the connecting link towards western Canada.

The suspension of the corn laws in consequence of the famine in Great Britain and Ireland, has shown by the operations of free trade in breadstuffs, that Montreal will lose the principal part of the trade of the St. Lawrence, until her communications with the sea are perfected. Produce has been brought from lake Erie to Montreal, and has reached New York through lake Champlain and the Northern canal the past season, at prices below the cost of transportation by the Erie canal, occasioned by the extraordinary demand for transport, and the inability of the Erie canal to forward it as rapidly as desired.

It may fairly be assumed that other outlets, and of far greater capacity than the Erie canal, are necessary to the growing trade of the west; and that the extent of the necessity cannot at this present period be measured, for the resources of that country are boundless as the population may be; and it is gratifying to the friends of this province to feel, that, great as this increase may hereafter prove to be, the St. Lawrence and its improved canals, are equal to its conveyance, and that they are the natural outlet to the country of which the great lakes are the basin.

In connection with this highway towards the sea, a channel of communication is wanting, open at all seasons of the year, which may successfully compete in cheapness with all others, to make the city of Montreal the emporium of commerce for the inland waters, of which the St. Lawrence is the outlet.

The course of trade the present year has shown that, from Detroit to Montreal, in ordinary times, a barrel of flour may be brought for one shilling and sixpence currency, and the cost of laying it down at Portland by railway, need not exceed one shilling and sixpence more—making a total cost of three shillings per barrrel. Added to this, there is the advantage by this route, that produce may be carried from Chicago to the ocean, with but one transhipment, and that at Montreal, whereas no other route can probably be established, with less than three transhipments at least.

These facts must make it obvious to all who examine the question, that the railroad now in construction from this city to Portland, is the link necessary in the completion of this unequalled continuous communication to the sea, for its capabilities will be of the highest order, and its geopraphical position will enable it to compete successfully with any other road which can be constructed from the waters of the St Lawrence to the ocean.

It is the intention of the directors to petition the legislature of the province during its next session for public assistance to this undertaking, upon such plan as may seem meet to that body, as the directors, in common with the colonial public on this continent feel that, without railroads these colonies must sink into comparative insignificance; and the board point to the neighboring colonies of New Brunswick and Nova Scotia for examples of activity worthy of imitation, as well as to the colonies in the East and West Indies, where railroads are commencing, and are considered indispensable in the present era of progression.

The directors would again record their undiminished confidence in the eventual success of the undertaking, and that it will amply remunerate the stockholders as an investment.

All which is respectfully submitted.

A. N. Morin, *Chairman.*

Office St. Lawrence & Atlantic R. R. Co, Montreal, 19th January, 1848.

After the reading of the report, Maj. T. E. Campbell, Alex. T. Galt and Samuel Brooks, Esqs., were elected in the room of the three directors who retired by rotation.

Statement of Total Disbursements by the St. Lawrence and Atlantic Railroad Co, to 30th Nov. 1847.

PERMANENT DISBURSEMENTS FOR CONSTRUCTION.			
For expenses of engineer department, including instruments		£6,386	12 6
For lands and stations, including payment of agents, notaries for engrossing deeds, travelling, etc		5,501	15 1
For iron, including freight, insurance, agency, duty, storage, etc		22,825	2 0
For grading, including the bridge over Richelieu river		26,132	12 10
For freight and platform cars		33	12 0
		£60,879	14 5
For office expenses, including furniture, salaries, postage, fuel, stationery, etc		1,439	0 9
For advertising and printing		350	1 4
For expenses of Mr. Galt's mission to England, travelling from 14th June to 31st December	303 3 5		
For printing, engraving, advertising, etc	474 2 9		
	777 6 2		
Sterling, at the rate of exchange when paid		962	14 5
For contingencies, including professional and incidental charges		319	6 0
Balance at profit and loss		18	6 7
DISBURSEMENTS OF LONDON COMMITTEE.			
Amount paid as per accounts rendered 31st Dec., 1843, and 3d Feb., 1847.			
For advertising, printing, agency, law expenses, etc., sterling		£1,216	9 3
For premium paid on purchase of 10,000*l.* exchequer bills		318	15 0
For amount re-paid shareholders (to Dec., 1846,) who had not signed the subscription of shares book, being the return of the deposit of 4*l.* sterling on 1,605*l.* shares, less 7s. 6d. per share deducted for expenses, pursuant to resolution of stockholders in Canada, of		5,818	2 6
For interest paid bankers on loan of 4,000*l.* sterling, the company receiving the interest on exchequer bills over-purchased to that amount by the London committee		24	18 8
Sterling		7,378	5 5
At 8 per cent. premium of exchange, equal in currency to		8,853	18 6
For purchase by London committee of 10,000*l.* exchequer bills, 6,000*l.* of which were afterwards sold out, leaving a balance of exchequer bills in the hands of the London committee, 4,000*l.* sterling, at 8 per cent. premium, exchange		4,800	0 0
For cash in hands of London committee, £615 15 sterling, at 8 per ct. do.		738	18 0
For bills receivable in bank of British North America		4,148	13 9
		£82,511	13 9
RECEIPTS.			
By cash and bills receivable on acc't of—			
1st instalment	15,483	4	0
2d do.	12,748	16	0
3d do.	11,544	0	0
4th do.	9,119	2	0
	48,895	2	0
By do. in advance of calls	3,964	12	0
By do. for interest	272	19	11
By do. received by the London committee, on account of the 1st instalment of 4*l.* sterling, on 2633 shares, £10,532 sterling, at 8 per ct. premium exchange	12,638	8	0
By. do. received by London committee for premium on sale of £6,000			

exchequer bills, stg...	81 15 0		
By do. do. interest on investvestment, £8,201, at 3 per ct.....	159 8 2		
By do. do. interest on 10,000*l.* exchequer bills.....	220 17 3		
Sterling.....	462 0 5		
Exchange at 8 per ct. premium.....		554	8 6
By stock, the capital of the company, payable to Black, Wood & Co, being 25 per cent. of their estimate for grading, held as security for the due performance of their contract.....		4,000	0 0
By stock, the capital of the company, payable to Blood, Stone & Co., held under similar arrangements.....		2,375	0 0
By amount due Black, Wood & Co., balance of estimate to 30th Nov. '47.		1,859	0 0
By amount due Boody, Stone & Co., balance of estimate to Nov. 30, '47.		1,039	0 0
By amount due A. C. Morton, Esq., chief engineer, being balance of account current of the engineer department for Nov.....		289	11 10
By cash advanced by bank of British North America, on the security of notes lodged in that institution.....		3,247	12 8
By cash due City bank at Sherbrooke.		61	4 0
By cash due bankers in London, advanced to London committee for purchase of 10,000*l.* exchequer bills, at 8 per ct. per ex.....		1,200	0 0
By amount due on land and stations, payable (with interest annually) in 1852, secured on deeds to land proprietors.....		1,321	1 8
By amount due the custom house, for bonds on iron.....		793	13 2
		£82,511	13 9

THOMAS STEERS, *Treasurer.*

Railways as a Means of National Defence, or the Gauge Question.

The following article on this subject is from the London Daily News. The editor says:

"A speedy and decided settlement of the railway gauge question is palpably an obligation of this kind, viz: making the fullest use of such means as we possess already, in reference to any system of national military defence—independently of its claims in other respects, from different branches of the business of this country, whose interests demand the removal of every obstacle to a ready communication between all parts of the island by those highways which now convey, wherever they are established, the whole of our passengers and merchandise. In any scheme of national resistence to attacks from without, the importance of being able to transport troops and artillery with the utmost despatch from various stations and depots to the menanced point is unquestionable. In the peculiar condition of our military wants, the value of a power of moving the disposable force backwards and forwards at a moment's notice, and with the speed of thought, must be obvious. A small army may in this manner be, as it were, multiplied; possessed of this advantage, its efficacy for warlike purposes may become double of that usually ascribed to a body of twice its numerical strength;—and not only this present readiness, but the better condition of the defenders as well, when transported from place to place without fatigue will enable them to act on arrival with more than the ordinary energy. This great advantage the railway system, wherever it exists unbroken, now offers to the troops of Great Britain, in case of any foreign invasion.

This very advantage, however, in all cases where a break of gauge occurs, is *pro tanto* withdrawn; and in place of the uninterrupted despatch—which our circumstances must render peculiarly important in any case of resistance to an enemy on our own soil—there is, by the difference of gauges, a bar placed at the entrance of every line where a new dimension begins, a dead point in the advance at which the progress of the detachment must be araested. The process of merely discharging troops from one set of carriages, and rearranging them in another, at the first joint station, will usually exceed the whole time that would have been required to forward the body from one end of the journey to another on a series of uniform railways—but when they move with head quarters and baggage—when cavalry forms any part of the force, still more if cannon and ammunition are required to be thus transported, the loss of time must then be far more serious, and the detention, if the numbers are great, and the distance from extreme point to point is not very considerable, may absorbe the whole of the gain from the speed at which the locomotive enables them to travel while in motion. On this subject, to which attention, one would think, cannot fail to be strongly directed, if our present anxieties are genuine, there was some very important evidence given to the gauge commissioners, in Nov., 1845, by Sir Willoughby Gordon, quartermaster general. This officer, then already long accustomed to despatch troops by railway, spoke with the authority of practical experience on the military disadvantages of being forced to change to another width of rail at any intermediate point of a route. It would, he said, '*be equivalent in practice to the inconvenience of a ferry—to crossing a river in march,*' and very sufficient reasons are given in detail for this opinion, somewhat to the effect of what we have stated above."

A Dangerous Ride.

The following account of a dangerous ride, by a train of passengers on the London and North Western railway, is from the Manchester Examiner. *Fortunately* no accident occurred.

MISCONDUCT OF AN ENGINE DRIVER.

On Monday, at the New Bailey, two men, named William Hatfield and Mark Clegg, the former an engine driver, and the latter a fireman, in the employ of the London and North Western railway company, were brought up before Mr. Trafford, the stipendiary magistrate, and Captain Whittaker, charged with drunkenness and gross negligence in the discharge of their duty. Mr. Wagstaff, (solicitor of Warrington,) appeared on behalf of the company, and from his statement, and the evidence of the witnesses, it appeared that the prisoners had charge of the night mail train, from Liverpool to London, on Saturday. The number of carriages and passengers was not stated, but the pointsman at the Warrington junction being at his post waiting for the train, was surprised to hear it coming at a very rapid rate. He had been preparing to turn the points, in order to shunt the train on to the Warrington junction; but as the train did not diminish in speed, but rather increased as it approached, he, anticipating great danger if he should turn the points, determined on the instant upon letting the train take its course, and not turning them. Most fortunate was it that he exercised so much judgment and sagacity, for, in consequence of the acuteness of the curve at the Warrington junction, and the tremendous rate at which the train was proceeding—not less than 40 miles an hour—it does not appear that anything could have otherwise prevented the train from being overturned, and a frightful sacrifice of human life ensuing. Meantime the train continued its frightful progress; but the mail guard seated at the end of the train, perceiving that it was going on towards Manchester, instead of staying at the junction, signalled to the engine driver and fireman, but without effect, no notice whatever being taken of the signals. Finding this to be the case, he, at very considerable risk, passed over from carriage to carriage, till he reached the engine, where he found both the prisoners lying drunk, and apparently insensible, from the effects of liquor. They resisted for some time all his efforts to stop the train, and he was unable to bring them to a sense of their duty and their peril, until they were near to Patricroft. At length, however, he succeeded in stopping the train just before it reached that station, a distance of 14 miles from Warrington. This again appears to be almost a miraculous circumstance, for at the Patricroft station, on the same line as that on which the mail train was running, was another train, containing a number of passengers, who thus escaped from the consequences of a dreadful collision. The prisoners were, of course, immediately given into custody, and conveyed to the New Bailey prison, while, other assistance being obtained, the train was taken back again to the Warrington junction. The regulation is, in consequence of the sharp curves at this junction, that the trains shall not run at more than 5 miles per hour. Hatfield appeared very penitent, and wept bitterly, at the danger to life and property, of which he had been the cause. Clegg said that he had been out all the previous night with a train, and had not taken his clothes off; that before he started for Liverpool he had taken three glasses of spirits and water, but that he went into the office before the train started, and did not feel any effects from what he had drunk until after the train started, when he supposed it was the keen air, coupled with his having been up all the previous night, which caused him to fall asleed. The magistrates had power to commit the prisoners summarily for two months' hard labor, or to inflict a fine of £10, or to send the prisoners for trial at the sessions, at which they would be liable to a sentence of two years' imprisonment. After some consultation, the bench, appearing to be of opinion that some negligence had been exhibited at the office in Liverpool, or the men would not have been allowed to have left there in such a state of intoxication, decided upon the first alternative, and sentenced both prisoners to two months' hard labor.

New York and Boston Air Line and the Hudson River Railroad.

Continued from page 121.

In both cases powerful causes have been for some time operating, to concentrate the business below the bridges. The three outlets to the Hudson river, of the Erie and Champlain canals, the depot of the Troy and Boston railroad, and the landing of the New York steamers, are all below the bridge at Troy. The population of East and West Troy, is also mostly below, and is tending downwards, irrespective of any effect of the bridge. In the case of the bridge at Newark, the terminus of the Morris canal in Newark bay, the landing of the New York steamers, and the principal railroad depot, are all below; and the position of the railroad bridge, has had no influence in producing this result; and even if it had, no fair inference could be drawn from it showing that the proposed bridge at Middletown would produce any material injury to a place situated as the city of Hartford, nineteen miles above.

It is proper to state that the draws in the bridges at the places named, are not only comparatively narrow, but are inconveniently situated for passing. The width of the draw at Newark is thirty-six feet only, and the bridge is oblique to the course of the stream. That at Troy is larger, yet is only fifty-four feet in the clear, and is situated quite at the eastern end of the bridge, in a bend of the river, and the channel through it is partly artificial, and the current at all times strong. This bridge has a double roadway, one being used for the common travel. One of the draws is consequently closed most of the time. In neither case are the draws so arranged as to be operated in the easiest and most expeditious manner. The extent of sloop navigation, above the bridge at Troy, is about six miles, with a dam and lock intervening, and a strong current. The extent above the bridge at Newark, is about ten miles, with at times less than three feet water upon some of the bars.

Whatever may have been the effect in either case, of the bridges upon the value of property, immediately above them, it may confidently be asserted, that not a single vessel less has visited the ports of Waterford on the one, or Aquacknonk on the other, in consequence of being obliged to pass through the bridges named, situated below those places.

The bridge below Fairhaven, in this state, in its effect upon the business above it, bears a somewhat nearer resemblance to the one proposed at Middletown, than the two adduced above, although even that is very far from being a parallel case. The draw in this bridge has an opening of only fifty-three feet in the clear, and is closed at all times, except when opened for the passage of vessels. It is situated at one extremity of the bridge, where there is a cross current produced by the waters of Mill river, meeting those of the Quinnipiac, which is varied by the action of the tide.

Fairhaven, although not situated far enough from New Haven to command, as a commercial port, the business of a distinct range of country, still has a business somewhat peculiar to itself, and notwithstanding its position above the bridge, the prices of freight are no different from what they are at the adjoining port of New Haven, where there is no bridge to be passed.

The bridge which crosses the Connecticut river at Hartford, cannot justly be adduced as an example of the effect of a suitable bridge erected at Middletown. Like the Newark and Troy bridges, the navigation above is limited in extent, and there is very little to attract the trade above it. But even if it were an object for vessels to ascend higher, the bridge itself is so very imperfectly constructed as to impose upon navigators a great deal of unnecessary inconvenience. The bridge being used for the common travel, the draw is closed at all times, except when vessels are passing. When open, the draw has a width in the clear between the timber work of only twenty feet, and only thirty-two feet between the masonry. It is of very rude construction, placed at one end of the bridge, in the bend of the river, under cover of high buildings, and is about as illy adapted for the purpose designed as it could well be. It probably answers the requirements of the bridge charter, but is far from being suited to the navigable character of the river as far up as sloops are known to ascend.

With respect to the bridge itself, the first span from the draw is only eighty-three and a half feet, being one and a half feet *less* than the opening of the draw at Middletown. Its dimensions in other respects, as compared with the proposed bridge at Middletown, are as follows:

	Bridge at Hartford.	Proposed bridge at Middletown.
Main bridge	928 ft.	
Two small bridges on the meadows east	551 "	
	1479 "	1958 feet.
Width of piers at top	16 to 19 "	6 to 10 "
Width in clear of draw	20 "	85 "
Length of spans	83½ to 150 "	180 "
Shape of piers.	Square at ends.	Pointed at ends.
Section of water way between low water line & a line 20 feet above low water	21,884 sq. ft.	36,000 sq. ft.
Artificial obstructions from piers, causeway, etc., between the same limits	22,810 sq. ft.	2,210 sq. ft.

In the case of the proposed bridge at Middletown, the ratio of artificial obstruction to the section of the water way, between the limits specified above, is only one-sixteenth part; but in the case of the Hartford bridge, the two are nearly equal, showing that the latter, viewed in connection with the causeway on each side, may with almost as much propriety be termed a dam, as a bridge. The necessity of having about the same amount of water way at Hartford as at Middletown, is evident, from the fact that the quantity of water passing Hartford to the sea, is not much less than that passing Middletown. The surface drained by the Connecticut above Hartford, is between 10,000 and 11,000 square miles, and above Middletown, it is only 400 to 500 square miles more; a portion of which additional drainages goes to supply the greater evaporation from the surface of the river between the two places. The quantity of water passing Middletown to the sea, is probably not more than four or five per cent. greater than the amount which passes Hartford.

The instances where draw bridges have been authorized and erected, in crossing navigable waters with railroads are numerous; and still more so, where they have been erected for the purposes of the common travel.

No less than twenty railroads are now in operation in the United States, on each of which are one or more draw bridges over navigable tide waters. The city of New York being upon an island, could not be entered with an unbroken line of railway, except by means of a bridge of that description, and the same is partially true of Boston.

The question of the right of state legislatures to authorize the erection of draw bridges over navigable waters, where they are needed to promote the general convenience, is not at the present day, a matter of doubt. There is unquestionably a limit to the exercise of the power; and while pursuing the great object of the "greatest good of the greatest number," a just regard should be paid to the interests of the few that they be not unnecessarily injured. The time has been when the inland navigation of the country was more essential to its prosperity than now. The system of railways is taking the place in a great measure of other modes of intercommunication, and is revolutionizing by its superiority, the internal commerce, not only of this, but of other countries.

The same care with which the internal navigation of the country has hitherto been preserved and fostered, should be extended to railways, for a like reason; but with this difference, that the latter from their great superiority merit in comparison, a higher consideration. That people or state which does not recognise this truth in its conduct and legislation, is behind the spirit of the age, and needs a "Discourse on roads," to enlighten their path of duty.

I have, perhaps, been more full in my explanations in regard to the proposed bridge over the Connecticut, than the circumstances of the case required. My excuse for so doing, is to be found in the importance of the subject, and in the fact, that much error prevails in regard to it. I feel confident that no serious injury will result in consequence of its erection, to the business interests of Hartford; and should they suffer, or should that city hereafter not prosper to the same degree as heretofore, it will be owing to the diminished importance of a position at the "head of sloop navigation," and to other causes than the erection of a bridge at Middletown.

The future will show that the legislature which granted the charter incorporating the New York and Boston railroad company, with the privilege of crossing the Connecticut river by a bridge, acted wisely in so doing, and with regard to the best interests and honor of the state.

The subject of the probable revenue of the road, is one to which I have given some attention, and I feel confident that the published estimate of freight and passengers, as made by Profs. Smith and Johnston, is below rather than above, the truth. That estimate is as follows:

Receipts from passengers	$75,200
" freight	67,051
" passengers, on Norwich and Worcester road	36,000
Receipts from towns more than ten miles distant	25,000
Receipts from business and way stations, exclusive of freight from Connecticut river	12,000
Add mail and expresses	15,000
Total annual receipts	230,251
To the above is added for increase in consequence of the building of the road, the sum of	113,825
Making in all	344,086

The experience upon most roads, shows a much greater increase over existing business, in consequence of the construction of the road, than is estimated above. One hundred per cent. advance would not, I believe, be too high an estimate. In nearly every case where railways have not fulfilled the expectations of their projectors, it has been owing, not to an over estimate of the probable business, which has generally been placed too low; but to the fact that the roads have cost more than was contemplated. Any error in this latter respect, I have endeavored to guard against in the estimates, by making them sufficiently liberal to cover contingencies.

* * * * *

In a few years, and a very large population will have gathered in adjacent on either side exhibiting an almost continuous line of villages, owing to their existence and extraordinary growth, principally to the vivifying influence of the railway; and in turn imparting to the latter an amount of business of the most profitable kind, not exceeded, probably, by any other line of equal extent in the United States.

In this view, it will not, it is believed, be deemed an extravagant estimate, if the annual revenue of the New York and Boston railroad, in Connecticut, is supposed to reach in a very short period after its completion, the sum of 450,000 to 500,000 dollars. Deducting from the amount first named, one half for the annual expense of operating and maintaining the road, which is a very fair proportion; a proportion sustained by the experience of several existing roads, and there remains the sum of $225,000 for distribution annually among the stockholders, equal to *eight per cent.* on the capital invested, and a surplus of $20,000 for contingencies.

This is the result considering the road merely as a local work. It is, however, too limited a view to take of the subject. The New York and Boston railroad in Connecticut, is a portion of a route connecting the cities of New York and Boston in the most direct and feasible manner, and is destined to become the principal medium for the transit of passengers and light goods between those two great and flourishing cities. It will be the great artery into which will flow the travel and business of the richly populated region contiguous to it, and the contributions of the many existing and projected lines of railroad intersected by it.

By reference to the map, it will be seen that the most direct, practicable course for a railway from New York city to Boston, follows near the north shore of Long Island sound as far as New Haven, a distance of seventy five miles nearly. Charters from the states of New York and Connecticut, have been obtained for this portion, and so much of it as is not now in operation, has been placed under contract, and the work upon it is in progress, with a fair prospect of its being ready for use by the close of another year.

From New Haven to Boston, the direct course follows the route pursued in the surveys, for the New York and Boston railroad, as described above. The whole ground has been instrumentally examined, and it is ascertained that a very favorable line can be obtained. This line is removed from the waters of the sound, and so far as the way business is concerned, from all steamboat competition thereon. It passes directly thro' the eastern portion of this state, as above described, leaving the state near its northeast corner, thence through a portion of Rhode Island and Massachusetts, to Boston.

The distance upon this line from New Haven to Boston, as ascertained by actual survey, is one hundred and thirty-six and a half miles, making the whole distance from New York city to Boston two hundred and ten or two hundred and eleven miles. From New Haven to the east line of the state, (83 miles,) is embraced by the charter of the New York and Boston railroad company, which confers the right to erect a bridge across the Connecticut river, at Middletown.

In Rhode Island, an application is pending for a charter for the portion in that state, embracing a distance of about eighteen miles; and in Massachusetts, a charter was granted at the last session of the legislature, authorizing the construction of a railway from the Rhode Island line at Blackstone, towards Boston, connecting with the Boston and Providence railroad, about eleven miles from Boston, and making the whole distance in the state of Massachusetts, nearly thirty-six miles. It will be seen, therefore, that the whole line from New York to Boston, has received the legislative sanction, with the exception of the portion in Rhode Island, which is only about one-twelfth part of the whole.

Should any doubt exist as to the probability of obtaining a charter for this portion, the line may be so varied as to avoid that state entirely, by increasing the distance only four to five miles, still leaving it superior to any existing or projected route connecting the two great cities named. It is not, however, believed that the state of Rhode Island will be willing, by such a change, to lose the benefit of a location within the limits of that state.*

* We understand that the legislature of Rhode Island has refused the charter asked, but that is no reason why the next will not do it.

The corporation, under the charter granted in Massachusetts, has the right "to enter upon the Boston and Providence railroad, by proper means, and to use the same, subject to such tolls as may be mutually agreed between said corporations, *as the legislature may from time to time prescribe.*" This portion is now in course of construction, and it is understood, will soon be ready for use.

It is proper to remark here, that if the New York and Boston road is completed no farther than from New Haven to its intersection with the Norwich and Worcester railroad, seven miles from the Rhode Island line, it will afford through the medium of that road, via Worcester, a route to Boston, superior to that by the way of Springfield, being ten miles shorter, with less curvature, and will, in consequence, be likely to participate the most largely in the through travel between New Haven and Worcester, or between New York and Boston.

From an examination of the general features of the country north and south, it is ascertained that the only other inland route, between New Haven and Boston, which comes nearest as a competitor, to the direct route, for the *through* travel, etc., is that by the way of Springfield. This line is composed of the New Haven, Hartford, and Springfield railroad, a portion of the western railroad, and the Boston and Worcester railroad, comprising three or four corporations in all.

The two routes compare very nearly as follows:

Distance from New Haven, via Springfield, to Boston	161¼ miles.
Distance by the direct route	136¼ "
Difference	25 "
Maximum grade on the Springfield route	66 ft. pr m.
" the direct route	55 "
Difference	11 "

The surveys upon the direct route show, that by making a change in the position of the line, at particular points the maximum grade may be reduced to fifty feet per mile, without adding to the distance, or materially enhancing the expense.

The total rise and fall upon the direct route cannot be accurately stated, until the line is established. It is estimated at from 3,900 feet to 4,100 feet.

Upon the Springfield route, as near as can be ascertained, it is	3,150 "
Difference	950
Total deflection of curves on the Springfield route	6,500 deg.
Total deflection of curves on the direct route	4,700 "
Difference	1,800 "

It will be seen from the above, that as respects distance, there is a large difference in favor of the direct route, viz, 25 miles. As it respects the maximum grade, and consequent maximum load which an engine of given power can draw, there is also a balance in favor of the direct route. The gross load in tons which an engine can convey up an ascent of fifty feet per mile, is one-sixth more than it can convey up an ascent of sixty feet

per mile; and one-fourth more than can be conveyed at the same speed up an ascent of sixty-six feet per mile. It is stated that the maximum grade in one direction, upon the road from Springfield to Boston, is only fifty feet per mile. This being true, the balance in favor of the direct route, will be lessened, since for trains passing in one direction, it will possess no superiority over the Springfield line, in respect to the maximum grade.

With regard to the difference in the total rise and fall which, as stated above, is in favor of the Springfield route, its effect will be confined to the relative speed of the trains upon the two routes, and this may be ascertained with sufficient accuracy, by assuming the amount for each route to be distributed uniformly throughout the whole distance, and then computing the speed of an engine drawing a given load upon the uniform inclination thus obtained.

The cities of New Haven and Boston, being upon the same level of tide, there will be the same amount of ascent as of descent upon the Springfield route; and the same is likewise true of the direct route.

Upon the Springfield route there is, therefore, $\frac{3150}{2}$=1575 feet of ascent, and the same amount of descent, which, as the whole distance is one hundred and sixty-one and a half miles is overcome, the ascent in $\frac{161\frac{1}{2}}{2}$=$80\frac{3}{4}$ miles, and the descent, in the same distance; giving an average inclination of the grade line, of nineteen and a half feet per mile, ascending for one half of the distance, and descending for the remaining half.

Upon the direct route, the amount of ascent by the supposition, as above, is equal to $\frac{4100}{2}$=2050 feet, and descent the same, and the distance being $125\frac{1}{2}$ miles, there is on the average $\frac{136\frac{1}{2}}{2}$=$68\frac{1}{4}$ miles of ascending grade, giving an uniform rate of thirty feet per mile, and the same distance of descending grade, at the same uniform rate of descent per mile.

In computing the speed with which a locomotive engine can convey a given load up a given rate of ascent per mile, many considerations are involved, which render the process too complicated to be presented in full, in a communication like the present. Such a computation has been, however, very carefully made, for the two inclinations named above, of $19\frac{1}{2}$ and 30 feet per mile, and the result is, that an engine which can convey a load up an inclination of $19\frac{1}{2}$ feet per mile, at the rate of $27\frac{1}{2}$ miles per hour, can convey the same load, under the same pressure of steam, up an inclination of thirty feet per per mile, at the rate of twenty-five miles per hour.*

By applying these velocities to the two routes under consideration, it will be seen that the time required to overcome the $80\frac{3}{4}$ miles of ascent upon the Springfield route, is equal to hours $\frac{80\frac{3}{4}}{27\frac{1}{2}}$=two hours and fifty six minutes, and to overcome the $68\frac{1}{4}$ miles of ascent upon the direct route, it requires hours $\frac{68\frac{1}{4}}{25}$=two hours and forty-four minutes; that is to say, the total ascent upon the direct route will be overcome in twelve minutes *less* time, than the ascent upon the Springfield route. If the descent upon both lines is accomplished, at a like rate of motion, which rate it will not be unreasonable to assume at 40 miles per hour, upon a road of a suitable character, the engine upon the direct route will have passed over eight miles of descending grade at the moment the engine upon the Springfield route reaches the summit, and commences its descent; that is to say, at the moment named, the engine on the direct route will have before it a distance to be passed over of $68\frac{1}{4}$—8=$60\frac{1}{4}$ miles, while that upon the Springfield route has yet to pass over half of the whole distance on that route, or $80\frac{3}{4}$ miles, to reach the end of its journey; showing a clear difference of $80\frac{3}{4}$—$60\frac{1}{4}$=$20\frac{1}{2}$ miles, in favor of the direct route, or a loss of only 25—$20\frac{1}{2}$=$4\frac{1}{2}$ miles, in consequence of the extra rise and fall upon the latter.

By this calculation, the result of which is so favorable to the direct route, it is assumed that the descending velocity is the same upon both routes, a condition which can only be realized by the application of *extra* power upon the Springfield route; for the reason, that the required velocity *down* an inclination of thirty feet per mile, can, with the road and cars in good order, be obtained by the aid of gravity alone; while upon an inclination of $19\frac{1}{2}$ feet per mile, *some* aid from steam is necessary to give to the train any motion; that inclination being, if anything, within the limit whereon gravity and the resistances to the advance of the train, are in equilibrio.

In the calculation, also, it is assumed, that the resistance from curvatures is the same on both routes; whereas there is a difference, or balance, in favor of the direct route of 1800 degrees of deflection, which is probably equivalent in its effect upon the speed of fast trains, to a distance sufficient to offset against the greater rise and fall on that route, making the actual practical difference of the two, if anything, greater than their measured difference, or more than *twenty five miles in favor of the direct route.*

It is, moreover, supposed that the two lines of railroad are built in the same manner; instead of this, however, it is recommended to build the road upon a direct route in a superior manner, with a heavier rail, and with a more firm and substantial track, so as to allow of the use of heavier and more powerful engines, and thus ensure a higher degree of speed, with the same degree of safety. It is also recommended to make such improvements in the plan of the road, as will secure a speed, in addition to what is practicable on existing lines, of full five miles per hour.

If in addition to the preceding, the importance is considered, of an independent line of railway, devoted mainly to the transportation of passengers, between the cities of New York and Boston, which shall be under one management, throughout the entire distance, and free from the delays and interruptions which must unavoidably take place upon the Springfield route; a road upon which the *through* travel and business can be conveyed at less expense than upon the Springfield route, in consequence of the saving in maintenance and repair of 25 miles of road, causing a proportionate saving in the wear and tear of cars and engines; a road, the cost of which will be full two millions of dollars less, than has already been expended upon the line by the way of Springfield; when indeed all these things are considered, it will be obvious that the actual practical difference of the two routes, when reduced to equivalent miles, instead of being twenty-five miles, or thereabouts, will be greater than that amount, and as it respects the difference in time, should be rated at not less than *one hour* in favor of the direct route for the passenger trains, and for the freight trains, from *two* to *three hours* in favor of the direct route.

It may perhaps be urged, that, inasmuch as the route via Springfield, has a business independent of the through travel, etc., between Boston and New Haven, sufficient for the maintenance of the road, and the payment of liberal dividends to the proprietors, it can afford to carry *through* passengers at very low rates; but whatever is true of that route in this respect, is true in a greater degree of the direct route, it having been ascertained from official documents, that the population furnishing a *way* business, is the greatest per mile on the direct route, and of a character to contribute more, relatively to the business of a railroad, and it having been ascertained also by statistical inquiries, made with much care, that the amount of travel and business on that route, as already shown, is adequate to sustain it handsomely, without regard to the *through* travel between Boston and New York. Hence the through travel, etc., can be conveyed at a very low rate, and at a cheaper rate than upon the Springfield route, inasmuch as the cost of the road will not be as great by nearly one third.

In the estimate, made as given above, of the relative speed attainable upon the two routes, the formula of DePambour was used, as being the best authority for such computations. The treatise of that gentleman upon railway locomotives, is the most complete of any extant. It is recognized as the best authority, both in this country and in Europe, and although there are minor points, in which it may, perhaps, be shown to be imperfect, yet in a case of the kind under consideration, where the object is mainly to ascertain the *relative* merits of two lines, without regard to the *absolute* capabilities of either, those imperfections become quite unimportant.

A similar remark may also be made as to the propriety of assuming, as is done above, the total rise and fall on each line, to be uniformly distributed throughout the whole extent of each respectively. This supposition is, of course, not in strict accordance with the facts of the case; but whatever inaccuracy

* For confirmation of this, see treatise of De Pambour on locomotives, etc.

may result from thus averaging the gradients on one route, a like inaccuracy will appear in the other, so that the actual *relative* merits of the two are probably as correctly ascertained as they could be by taking the several gradients upon each, in the order in which they occur, and computing the speed upon them separately.

It will be proper to state, before leaving this part of the subject, that the formula of De Pambour, spoken of above, is a *practical* formula, based upon, and derived from, actual experiments made with great care and skill, upon the best roads, and with the best engines then in use in England. In fact, prior to the appearance of the work of De Pambour, there existed no formula which expressed, with any very near approach to truth, the *practical* operations of the steam engine, whether applied to railways or to any other purpose.

With respect to the speed attainable upon the direct route, the average rate adopted in the above calculations is $\frac{25 \text{ plus } 40}{2} = 32\frac{1}{2}$ miles per hour. This speed is contemplated for the fast trains only; and if continued through to New York, as it may be, (there being no gradients between New Haven and New York to prevent,) it will enable the trains to pass the whole distance from city to city, two hundred and eleven miles, in about *six and a half hours* of running time, or seven hours, including stoppages; and if the road is built as proposed, with a suitable track and very heavy rail, and the highways are carried either over or under the railway, as intended, a deduction may be made from the above estimate, and the whole distance may be traversed, if required, in about five hours, running time.

A road of the character described, will command nearly all of the travel between the cities of Boston and New York. This travel is now, probably, equal to 150,000 passages annually, and in a very short time it will be double that amount. Indeed, it may safely be asserted that the travel between those cities would be very much greater than it now is, if a railway such as is described above, were now in existence.

In respect to the number of passengers to be conveyed upon it, the New York and Boston road direct will be supported, not by the population and business alone, of New York and Boston, and intermediate places, but it will receive in addition thereto, a large amount from other sources. It will constitute the main avenue of communication between New England and the south and southwest, in which direction the travel must, from obvious causes, continue rapidly to increase. It will also constitute a main avenue of communication with the west, since by no other equally feasible route, can the New York and Erie railroad, which is now being built from the waters of the Hudson to Lake Erie, be continued into New England. Its importance in this latter respect, will be more fully appreciated, when it is considered that the New York and Erie railroad is destined by its extension through the states of Ohio, Indiana, etc., to be the great main line of railway communication between New York city and the far west.

The New York and Boston railroad, when located as contemplated, upon the best ground, and most direct route, will occupy such a position that it cannot be superseded by any other railway connecting the same two important points. In this view, it must constantly improve in character and importance as a national work. The population in its vicinity, and consequent value of property, will continually increase without fear of a relapse; and investments made in the stock of the road, will be in a corresponding degree, safe and profitable.

In this respect it will not be surpassed by any other work of the kind in the country. There is not, probably, another portion of the country where a railway of the same extent can be located, and at its very opening command so large a business as this line from Boston to New York. In its course from city to city, it intersects four existing lines of railway reaching northward into New England, all of which will be tributary to it; lines which are constantly being lengthened by the construction of new portions. From its great superiority it will have nothing to apprehend from competition with steamboats, or rival railroads. It passes through a section of country densely populated. The amount of the population within the immediate sphere of its influence, exclusive of the two cities at its termini, exceeding half a million of souls; a population mostly engaged in pursuits of a character to contribute largely to the business of a railroad; considerations which have done more to build up and sustain the system of railways in New England than all other causes combined.

The fact, that in Massachusetts, Rhode Island, and Connecticut, there is a population to the square mile nearly double that of any other state; thus furnishing a very large amount of what is termed *way* business, is the true cause of the great success of New England railways; and this element of success will be possessed by the New York and Boston road in as high a degree, and to as great extent as any other railway in New England.

Its importance in promoting the future growth and prosperity of places within its influence, will, it is believed, be so apparent, from what is stated above, as not to require further illustration. The route passes through a region of country not accommodated, excepting particular portions indirectly, by any existing line of railway; it consequently will not interfere with the vested rights of any other corporation, neither will it materially diminish the income of any other railway company, while it will add to the income of several, it being now well understood that in proportion as the railway system is extended, the travel upon existing lines is increased.

In view of the importance of the New York and Boston railroad, as a great public work, it is very desirable that its construction should be accomplished in a style and manner commensurate with its merits. Corporate powers for its construction have, as already stated, been obtained from the legislature of Massachusetts, Connecticut, and New York, embracing eleven-twelfths of the whole distance. There remains the state of Rhode Island which has not granted the requisite power. To doubt that it will do so, when the proper time arrives, would be to question the intelligence and patriotism of the people of a state, thus far distinguished for liberal and enlightened views upon questions of a like character. * * *

EDWIN F. JOHNSON, *Civil Engineer.*
Middletown, August, 1847.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of
RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES
Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

DAVIS, BROOKS & CO., NEW YORK, offer for sale:
150 tons Railroad Iron, 60 pounds per lineal yard, of an approved pattern, and in long bars; also,
300 tons, ditto, expected to arrive in the month of April next. 6t8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 ly

NEW PATENT CAR WHEELS.
THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.
SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON, PIG IRON, ETC.
600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.

1y10 New York.

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without it's aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

GEO. W. TOWNS, *Governor.*

WM. L. MITCHELL, *Chief Engineer.*

Atlanta, Ga., January 24, 1848. [7t6]

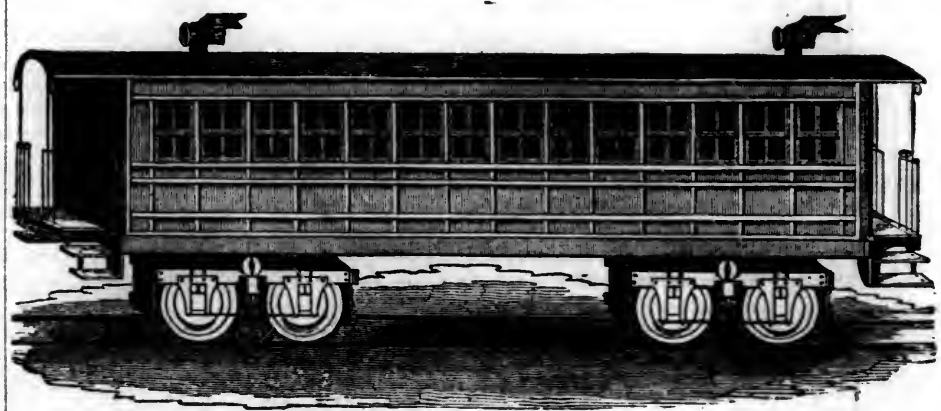
RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*f*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,

Willow Street Wharf,

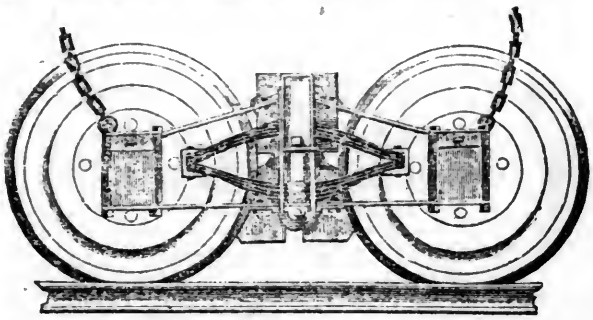
1tt Philadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,

Agents.

1y48 77 Pine St., New York.

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	21	–	50	15-16	20
13	3¼	9	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¾	5	2	6¼	9	4	13¼	1-2	7¼
16	2¾	4	3	6	8	8	10¼	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

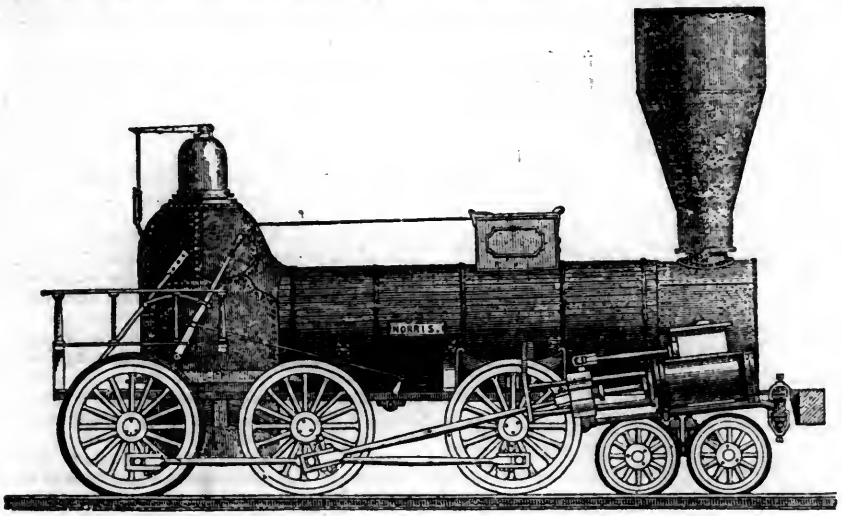
The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

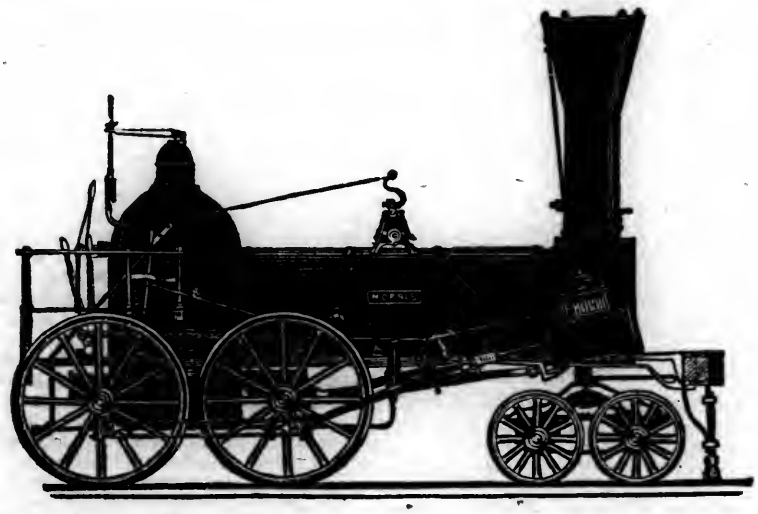
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J
25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Patersen, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 5 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitnde, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO exrcute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.


WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M,
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Super't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m.. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions han any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
15tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.
First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York afier 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Saudusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1¼ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

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CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, conneting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.--1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12¼ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0.65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., July 15, 1847. 41•1y

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.
SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

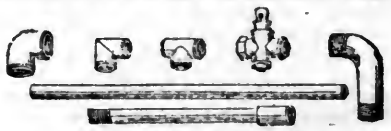
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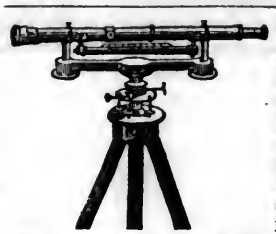
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FOR
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D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 10] SATURDAY, MARCH 4, 1848 [WHOLE No. 611, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, March 4, 1848.

To Contractors.--Hudson River Railroad.

The attention of Contractors is called to the following notice of the *Hudson River* Railroad Company, which we find in the Commercial Advertiser—the engineer having inadvertently omitted to send it to this Journal, where all contractors look, *of course*, for *such* notices; and where they should, *of course*, *always* be first sent. We, however, make allowance for such omissions, knowing, of course, that they are inadvertencies. It is very opportune, however, to this number, as in it we commence the publication of the able report of the engineer upon the location of the road from Fishkill to Albany, and shall complete it next week.

HUDSON RIVER RAILROAD.—NOTICE for Proposals. Sealed proposals will be received by the Directors of the Hudson River Railroad Company at their office, 54 Wall street, until the 15th day of March, for the Grading, Masonry, Piling and Bridging for that portion of said road which extends from Break Neck Hill to Poughkeepsie, a distance of about twenty miles. The work to be completed by the 1st day of April, 1849, according to the plans and specifications that will be submitted for examination as hereinafter mentioned. A reserve of 20 per cent. on the monthly estimates will be retained by the company until the contract is completed, as security for performance. No transfer of contracts will be recognised or permitted.

The maps and profiles of the line, the plans of work, the form of contract, and specifications of the manner of executing the same, will be ready for examination on and after the 10th of March, at the office of the Resident Engineer, Cold Spring, for that portion of the line between Break Neck Hill and Fishkill Landing: and at Poughkeepsie for the remainder of the line. On the 15th of March the maps, profiles and plans of work will be presented at the office of the company, 54 Wall street.

The line will be divided into convenient sections, and proposals may be made for one or all the sections; the party proposing, to state whether they desire all, and if not, what portion of the work they propose to enter into contract for.

The full names of all persons that are parties to a proposition, must be written out on the same.

The party to any proposition which may be accepted, will be required to enter into contract immediately after the acceptance of the same.

The Directors reserve to themselves the right to accept or reject proposals that may be offered, as they consider the interest of the company to require.

JOHN B. JERVIS, *Chief Engineer.*

Office of the Hudson River Railroad Co.
New York, 22d Feb., 1848. } 2t10

A Good Example, and Worthy of Imitation.

Though not an admirer of *imitation*, and *imitators* generally, yet there are *some* things which we should admire to see more frequently imitated in this country, as good would result thereby to others than to the *Railroad Journal*.

The particular example to which we now refer, and which we should like to see often imitated—was set by a gentleman in the west, having the management of a railroad, who in *December*, 1846, remitted *fifty* dollars in payment for the Railroad Journal, to be sent to his company, directors and himself, for the year 1847—and who has now imitated his own example, and remitted fifty dollars more, to pay for the same periodical for the same parties, up to Jan. 1, 1849! and we should belie our own feelings were we to refrain from saying that his liberality and his efforts are duly appreciated, as such acts and imitations are rare—yet we trust that this will not be "solitary and alone."

Pennsylvania State Railroads.

We are indebted to Wm. B. Foster, Jr., Esq., for a copy of the annual report, for 1847, of the superintendent of motive power and of repairs on the Portage (Pa.) railroad, which, together with that of the Columbia road, we shall give entire, that our readers may see the working of railroads under State management, as compared with those built and worked by companies.

Reading Railroad. Annual Report.

We have not yet received a copy of the annual report of this company.—Why not?

The *Boston Post* is in error in saying that "there were 97,800 tons of coal carried over the Philadelphia and Reading railroad during the week ending Feb. 24th, 1848." It should be since January 1st, including the week ending Feb. 24th.

Muscogee Railroad.

We learn by letters from Columbus, says the Macon Messenger, of 23d ult., that the eastern division of the above road, extending from Barnesville, to a point one mile beyond the Flint river, has been contracted for by Mr. John Gray, of this city, and a Mr. Timberlake, and that the work will be commenced at an early day. The act of the last Legislature authorised the Macon and Western company to endorse the bonds of the Muscogee company to the amount of $350,000. That endorsement has been authorised by the company to the amount of $250,000, provided the funds be applied to the construction of that part of the road east of the Flint. Under this guarantee, added to the private subscriptions, we see no reason why the work should not be rapidly pressed forward to completion.

Columbia Railroad Receipts.

Collector's Office, Philadelphia and Columbia railroad, March 1, 1848. The following shows the collections at this office:

Amount as per last report	$10,5 8 60	12,523 26	23,081 26
Do. month ending Feb. 29, 1848	$6,047 15	10,223 21	16,270 36
Whole am't since Nov. 30, 1847	$16,605 75	22,746 47	39,352 22
Same time last year			38,889 54
Increase			$462 68

Bangor and Waterville Railroad.

The estimated cost of the Bangor and Waterville railroad is $700,000. The result of the survey is said to be very favorable, and the company will speedily proceed with the work.

See Your Ticket, Sir?

The American practice of examining the tickets of passengers is not in use in England, but another, not uncommon here, seems to be also in occasional use there, as will be seen by the following item from the Chronicle: "We are glad," says the editor, "to observe a disposition on the part of companies to teach the public honesty, and check the practice of riding in superior carriages, when the fare for an inferior carriage has been paid. On the 11th January, Mr. R. Wright and Mr. R. Rhodes, of Wigan, and Mr. T. Johnson, of Pemberton, appeared before the magistrates, at the sessions in Manchester, each charged with attempting to defraud the London and North Western railway, by riding from Manchester

to Wigan, in a first class carriage, with second and third class tickets. The charge was pressed by the company principally on the ground that the offence is extremely difficult to detect, except by the adoption of regulations for inspecting all tickets at different places on the journey, which regulations would occasion considerable inconvenience and annoyance to the passengers generally; and therefore it was urged that the public are in reality equally interested with the company in the punishment of offences, of this character. The magistrates appeared to take the same view of the offence, and inflicted the full penalty allowed by the by-law under which the charge was made, viz: 40s. and costs against each of the defendants.

New York and Albany Railroad, Location from Fishkill to Albany.

After a thorough and critical examination of the line from Fishkill Landing to Albany, both on the margin of the river, and upon the table land, the following able report was made by Mr. John B. Jervis, the engineer, which places the subject before the public in a very clear light. In this, as in most other locations of important lines of communication, or public works, *local interest* makes a strong effort to bring it past its own door, losing sight of the principle which *ought* to govern in such cases—viz: the general convenience and the greatest good.

In this work it becomes a very important matter to obtain the best possible grades, as it will have in the Hudson river, the most powerful competition that it *could* have *except another equally well built railroad*; of this no one could be better aware than the able engineer who has charge of the work, and therefore he has endeavored, and with entire success, as we think, to show that the line on the margin of the river should be adopted in preference to the one on the table land, even though the latter would pass through, or nearer to, the centre of the principal villages.

We might call attention to particular parts of the report, as being entitled to particular attention, but no one commencing it will be content until he has read it through, therefore we give it entire without further comment.

OFFICE OF THE HUDSON RIVER R. R. Co.,
ENGINEER DEPARTMENT,
New York, 12th January, 1848.

To the Board of Directors of the Hudson River Railroad Company.

Gentlemen—I have the honor of presenting a report on the question of the location of the line of road from

FISHKILL TO GREENBUSH.

Examinations and surveys have been diligently prosecuted by Mr. Clark, the locating engineer, and he has submitted a detailed report with estimates on two routes. In preparing the lines for each route, surveys have necessarily been run over a great extent of country, in order to find the most favorable line for each. In the original survey of Mr. Morgan, the point of divergence from the river was at Fishkill, rising gradually, and as it approached Wappinger's creek it followed the eastern slope of the valley, passing near Houstonville, and crossing the creek east of the falls. The line then inclined westward, intersecting the old post road, and continuing near it until it reached the eastern part of Poughkeepsie. This line was found to be so unfavorable that a new point of divergence was taken at Wappinger's creek, and a route found which passed Poughkeepsie, about half way between the above line and the river, and intersected it about two miles north of Poughkeepsie. This portion of the line was found about one mile shorter, and much less expensive than the original or eastern line, and therefore it was decided to adopt it for this portion of the interior route. As the maps submitted herewith will show the line better than any written description, they are referred to for information on this point.

The river route generally follows along or near the shore of the river. At Poughkeepsie, Staatsburgh, and Barrytown, it passes back from the river, in order to avoid interfering with docks, at the first and last place, and a sharp bend in the river at the other. In these departures the grade rises from 20 to 30 feet above that on the immediate shore of the river. The grade at Albany was taken at 22 feet above low water in the river, and gradually declined, keeping above the influence of the freshets, until the point was reached where the freshets of the river do not raise the water above flood tides; from this point the usual level above the river was taken.

The comparative result of the estimates has been different from what was generally expected. After diligent surveys, the best line that could be found for the interior route from Fishkill to a short distance north of Staatsburgh, is so expensive as to have but little superiority over the river route.

From near Staatsburgh to Hudson, the general character of the interior route is highly favorable, offering a very easy line to grade, comparing very advantageously with the river line opposite. The line continues favorable from Hudson to about six miles north of Kinderhook village; but from this point to near Albany, it is of a very expensive character, so much so that it raises the estimate between Hudson and Albany about $100,000 above that of the river route on the corresponding section.

The main difficulties on the interior route, it will be seen, occur in ascending from the river to the table land. At the north end it passes a series of deep ravines and clay ridges. The table land could have been reached with a much less expensive line, if a grade of 30 feet to the mile had been adopted; but this was regarded as incompatible with the great object to be secured.

The following tables show the degree and amount of curvature and straight line on each route, and the inclination of the several lines, or gradients of the road, with the elevation and depression on each route:

SUMMARY OF CURVES AND STRAIGHT LINES.

River Route.

No. of curves.	Length of curve of same deflection, miles.	Radii in feet.	Deflection in degrees.	Total deflection
4	0·348	2062	41° 45′	
4	1·490	2475	191	
78	15·418	3094	1480 05	
1	0·664	3375	33	
7	1·523	3713	124 10	
30	6·716	4125	495 20	
10	2·976	4641	194	
5	1·093	5305	51 20	
14	2·363	6188	113 30	
1	0·184	7426	18	
7	1·850	9282	60 20	
				2802° 39′
Total curv'd line.	34·682			
" straight "	48·375			
Total length in miles	83 000			

SUMMARY OF CURVES AND STRAIGHT LINES.

Interior Route

No. of curves.	Length of curve of same deflection in miles.	Radii in feet.	Deflection in degrees.	Total deflection in degrees.
3	0·818	2062	116°	
5	0·184	2475	24	
34	8·578	3094	834 18′	
3	1·289	3713	105	
23	3·347	4125	252 36	
4	1·462	4641	95 20	
27	10·094	6188	528 15	
5	1·808	6188	528 15	
				2014° 29′
Total curv'd line.	27·580			
" straight "	54·885			
Total length in miles	82·465			

River Route.

Table of grades and level lines between Fishkill Landing and Greenbush.

Distance in miles.	Inclination per mile in feet, level.	Ascent in feet.	Decent in feet.	Total ascent & descent.
49 312				
9·204	0·271	2·50		2 50
5·993	0 500	3·00		2.00
1·759	1·136	2·00		2·00
2·454	2·445	6·00		6·00
1·000	5·00	5·00		5·00
2·250		22·50		
3·007			30.	
2·006		20·		
2·505 (12·774 miles.)	10·00		25.	127·50
1·503		15·		
1 503			15.	
0·504	15.	7·50		7·50
83·000		83·50	70.00	153·50

Interior Route.

Table of grades and level lines between Fishkill Landing and Greenbush.

Distance in miles.	Inclination per mile in feet.	Ascent in feet.	Decent in feet.	Total Ascent & descent.
8·888				
5·276	From 3 to 4	8·80	11	19·80
1·012	" 6 to 7		7	7
940	" 7 to 8		7·04	7·04
1·553	" 8 to 9	8·00	5	13·00
2·454	" 10	24·54		24·54
634	" 10 to 11		6·87	6.87
1·636	" 11		18	18
2·515	" 11 to 12	22 78	6	28·78
4 970	" 12 to 13	62·28		62·28
1·963	" 13 to 14		27	27
7·056	" 14 to 15		102·63	102·63
1·411	" 15 to 16	22		22
13·023	" 16 to 17	159·93	57·18	217·11
28·807	" 17	222·28	267·35	489·63
0·327	" 17·040	5·90		5·90
82·465		536·51	515·07	1051·58

From the tables of curves, which show the linear arrangement, it appears that the interior route has six and a half miles more straight line, and seven hundred and eighty-eight degrees less curvature, than the river route; the minimum and maximum radius being the same on each route. The length or distance from Fishkill Landing to Greenbush being on the

Interior route.....82·465 miles.
River route.....83·000 "

The river line is longest by..... 0·535 "

The line may be extended from half to three-fourths of a mile further north, depending upon the point that may be selected for a termination; but assuming it may be half a mile, the distances will be respectively on the

Interior route.....82·965 miles.
River route.....83·500 "

The tables of gradients, or planes, show the maximum grade of the river route to be 10 feet per mile, (excepting half a mile extending south from the Poughkeepsie depot, which has a grade 15 feet per mile; but as it occurs where the trains must stop, it is not regarded as of any practical importance.)

Interior route.....17 feet per mile.

The total rise and fall is on the

Interior route.....1051·58 feet.
River route..... 153·50 " .

The highest summit above the river grade is

On the interior route.....218 feet.
On the river route..... 30 "

In linear arrangement the interior route is, say half a mile shorter, and has six and a half miles more of straight line. The curves on both lines, with a small exception, are on large radii, being from 3094 feet to 9282 feet, and admit of being traversed at high velocity. In this respect the lines may both be considered as good, the preference being with the interior, both as to directness and distance. In the more important matter of gradients, or planes of the road, the river route is materially superior.

No estimate has been made for land required for the road on either route. Experience having shown that the real value of land, when taken for such purposes, has little to do with the question, provided two things are settled, namely, the line of the road, and the determination to proceed with its construction.

In connection with this subject it may be remarked, that the land required for the interior route, for the greater part, passes through a fine agricultural country, and, to a greater or less extent, unavoidably traverses cultivated fields. The river line occupies mainly the rough and uneven ground along the shore of the river, doing little real damage, except as it disturbs buildings at the villages. In some places the wharves will require to be extended, and this is provided for in the estimates. To a very great extent the construction of the road will improve the appearance of the shore; rough points will be smoothed off, the irregular indentations of the bays be hidden, and a regularity and symmetry imparted to the outline of the shore; thus, by a combination of the works of nature and of art adding to the interest, grandeur, and beauty of the whole. However strongly this may now be objected to by some, it is confidently believed that before two years shall have passed after the completion of the road, none will be found willing to have the road removed.

To some extent, conditional contracts for land have been made on both routes, which will doubtless be submitted by the land committee, and the board will judge as to the influence of land damages on this question of location.

The estimated cost is as follows:—

River route,		
Grading, including masonry and bridging	$2,079,159	
Extending wharves	30,000	
Fencing	82,200	
	2,191,359	
Add for contingencies and superintendence at 10 per cent.	219,135	
		$2,410,494
Interior route,		
Grading, including masonry and bridging	$1,616,465	
Fencing	85,200	
	1,701,665	
Add for contingencies and superintendence at 10 per cent.	170,166	
		1,871,831
Interior less than river route		538,663

The estimate is made for grading for a double track to Poughkeepsie on both routes, and a single track from Poughkeepsie to Albany—the masonry and bridges for a double track throughout.

The estimate would not exceed the above on either route, more than $200,000, to provide for a double track throughout. The difference will be less in proportion to total cost on the river route, in consequence of the river walling, which is a heavy item, and will be the samo for a single as for a double track.

Having presented a statement of the gradients of the two routes, it is now proposed to investigate their comparative advantages in the working of the road. In doing this, it will be the object to present the subject in a manner as free as practicable from technicalities, and if it do not appear clothed in a strict professional form, it is believed the board will not the less be able to understand and appreciate it. As the passenger and freight trade will be affected somewhat differently, it appears proper to consider them separately. In doing this, the engines and their power, and the resistance they must overcome, will be especially the subjects of discussion.

ENGINES FOR PASSENGER TRAINS.

The medium by which a locomotive exerts its power on the load, is the adhesion of what are termed its driving wheels, to the rails. If this adhesion be not sufficient, the wheels will slip on the rails, and though the engine may turn the wheels, the load will not move forward. In any event, therefore, provision must be made for so much adhesion in the driving wheels as will be sufficient to enable the engine to move with the load it is intended to transport. The capacity of the boiler to generate steam, determines the actual power of the engine. This power being settled, the load the engine can transport will be in a ratio varying inversely with the velocity with which it is to be moved; but the medium (adhesion) by which this power is transmitted will be in direct proportion, not to the velocity, but to the load.

This may be illustrated by supposing an engine capable of moving a load of 100 tons at the rate of 15 miles per hour. Now the velocity may be increased so that the engine can only carry 50 tons, though working up to her full capacity of generating steam; but the weight of the load being reduced one half, the amount of adhesion in the engine necessary to set it in motion is also reduced one half. The adhesion of the driving wheels, therefore, may be reduced as the velocity is increased, the power of the engine remaining the same.

It is important to keep distinctly in view, that the actual power of an engine determined by its capacity to generate steam, while the adhesion required to apply this power to the load, will be in proportion to the load, and the load will vary according to the velocity with which it is moved.

A passenger train is required to move more rapidly than a freight train, and, consequently, requires *less* adhesion in its driving wheels. The practical consideration of this question of adhesion depends materially on the character of the road and the circumstances of its passenger trade. If heavy gradients occur occasionally on the route, or heavy loads are to be carried, that do not require great speed, it is necessary to provide more adhesion to enable the engine to exert its power at a reduced velocity.

Passenger engines in this country are generally made with two pairs of driving wheels, a practice which I consider to have arisen from the frequency of heavy grades and the necessity of carrying heavy loads, at a corresponding diminution of velocity. This may do very well where no competition exists, and a moderate velocity will afford sufficient accommodation to control the trade; but it is not applicable where high velocity and the greatest economy are required in working the road.

The advantages of one pair of driving wheels over two pairs are—First; less number of working parts in the machine, by which the risk of accident and the cost of repairs are diminished. Second: The machine being more simple, works more effectively; and Third: By substituting a simple pair of bearing wheels for one pair of large driving wheels, from one and a half to two tons are saved in the weight of the engine, while its power is not reduced. These are considerations of great importance in an engine designed to run at high velocity.

In England it is believed to be the uniform practice, on roads on which a high velocity is maintained, to use engines with one pair of driving wheels, for their fast trains.

Perhaps there is no road that, from its gradient and the importance of running at high speed is better adapted to, or more urgently demands the use of engines with one pair of driving wheels for its passenger trade, than the one under consideration. The investigation will, therefore, proceed on the basis of engines with one pair of driving wheels, and they will be assumed to be capable of working up to their adhesion, at the speed with which it is intended to run.

The adhesion of a driving wheel will be in a ratio of the weight with which it bears upon the rail. This ratio will be affected by the condition of the rail. When dry, or washed by a heavy rain, the rail is regarded as in its best state for adhesion; and, when slightly wet by dew, or mist, in its least fa-

vorable state, if we except white frost and snow, which at times nearly destroy it. In a fair state of the rails, this adhesion is equal to 1-6 the insistent weight, and 1 8 is regarded as a safe basis for the usual, or ordinary condition of the rails. For a passenger business 1 10 is considered a proper ratio for general calculation; allowing for a larger range in the condition of the rails, and at the same time providing for the occasional occurrence of an extra load, which it may be necessary to attach to the engine.

The question has been dwelt on more at length, on account, not only of its importance, but because the views entertained are somewhat at variance with the general practice in this country.

Before proceeding to calculations of the load an engine will move, the principal sources of resistance will be briefly noticed. They are

First.—That arising from the friction of the cars. It is usually estimated that 8½ lbs. is a power sufficient to draw one ton of 2240 lbs. on a level. This has been reduced to 6 lbs. on the best carriages on English roads. It is probable that a similar reduction will in time be effected in this country, but as we must commence with cars, not differing materially from those now in use, it is best not to anticipate improvements, so far as to make them the basis of computation at this time. Eight and a half pounds, therefore, will be taken as the basis for friction.

Second.—Air offers a resistance that is very small at low velocities; but as velocity is increased, it becomes important. This is approximately determined, by ascertaining the area of that part of the train which is exposed, when in motion, to the impact of the air and the velocity of its motion. With a train of five passenger cars moving at the rate of 35 miles per hour, this resistance would require a power of about 400 lbs. to overcome it; and if, in addition to this, the train should meet a head wind, blowing at the rate of ten miles per hour, the resistance would be increased to about 660 lbs. Should such a current of wind, however, blow in the direction of the train's motion, the resistance would be reduced to about 200 pounds. It therefore appears, that while the train moves at the same rate, this resistance may be very different, varying according to the force and direction of the wind. The speed of the train, however, must be maintained in all cases, and power must be at command to meet the ordinary circumstances of this resistance. At the same time it would not be economical to provide at all times power sufficient to meet the resistance of extraordinary head winds—it would be best in such cases when a heavy train is to be moved, to use an extra engine. These remarks are sufficient to show the importance of this element of resistance, and such provision should be made for it as appears to be demanded for the proper conduct of a passenger train. A wind blowing at the rate of 10 miles per hour, is a very common occurrence, and as it must be against the train in one direction, it would hardly be prudent to provide less power than sufficient to meet this amount of atmospheric resistance.

Third.—The resistance from gravitation in ascending an inclined road, which will vary according to the angle of ascent. If the resistance from friction be taken at 8½ pounds per ton of 2240 lbs., the resistance from gravitation will be essentially the same in amount, in ascending an inclination of 20 feet per mile; and in proportion for any other inclination. It therefore appears, that to draw a load up an ascent of 20 feet per mile, requires double the power needed to draw it on a level. It must not be inferred from this, that an engine will draw half the useful load up such ascent, that it would on a level; for, in moving up the ascent, the resistance from the gravitation of the engine and tender must be deducted from the power that was available on the level to carry useful load, and the difference in effect, caused by this deduction, will be in the ratio which the weight of the engine and tender bears to the useful load carried; consequently, it will be greater for a train moving at high velocity than for one moving at a low velocity.

The first and second elements of resistance, viz., friction of carriages, and the impact of the air, occur to a train moving on a level; the resistance arising from gravitation, in addition to these, occurs on an ascending plane.

The weight of an engine assumed for the following computation is—

16 tons, with 7 tons (15,680 lbs.) on one pair of driving wheels.

Weight of tender 14 tons.

The ton used in these calculations is 2,240 pounds.

Adhesion 1 10 the insistent weight on drivers.

Friction of cars 8½ lbs. per ton.

Resistance of air 650 lbs., due to a velocity of 35 miles per hour, against head wind of 10 miles per hour.

The gross load includes the cars and their load, and is *exclusive of the engine and tender.*

Then we have $\frac{15,680}{10}$ =1,568 lbs., tractile power of the engine, and $\frac{1,568-650}{8·5}$ —14 (tender) =94 tons, gross load on a level.

To determine what portion of this the engine will carry up an ascent, we must first deduct the resistance arising from the gravitation of the engine, which will be found (having assumed the resistance from friction of cars as equal to an ascent of 20 feet per mile) by taking such fraction of the weight of the engine and tender as will be in the same ratio to its full weight as the inclination of the plane is to an ascent of 20 feet per mile: and deduct the same from the gross load on a level, before stated; the remainder must be divided by a number that will express the resistance from both friction and gravitation of cars.

We have then for an ascending plane of 10 feet per mile $=\frac{94-(8+7)}{1·5}$ =52 66 tons gross load.

17 feet per mile $=\frac{94-(13·6+11·9)}{1·85}$ =37 03 tons gross load.

For the several planes embraced in the preceding computations, the gross load due to the adhesion, as assumed, appears to be

On a level line.....94·00 tons.
On ascent of 10 feet per mile.....52·66 "
On ascent of 17 feet per mile.....30·03 "

It is assumed (and fully believed) that the engine may be made to generate steam sufficient to move the loads above stated, on the respective planes, at a velocity of 35 miles per hour, and make average time, including stops, of 32 miles per hour; at this speed the trip between New York and Albany would be performed in 4½ hours.

If the road were constructed uniformly on either of the planes embraced in the above computations, the load expressed would be the measure of useful effect on each. But this is not the case on either of the two routes under consideration, as has been shown in the table of grades before given. It is therefore necessary to see how these results will be modified by the different planes, and their lengths on either route.

The ratio of adhesion has been taken at 1-10, and if the velocity of the engine be reduced, a corresponding increase of load may be taken, provided the adhesion be sufficient to transmit the power to the load. It has been stated that the maximum adhesion is 1 6 the insistent weight, and for short distances it may safely be taken at 1-8, if not 1 7; but let it be 1-8. which will be an increase of 25 per cent. Now if the velocity be reduced to 25 miles per hour, the resistance from air will be reduced, according to the basis of the calculation of that resistance, 250 pounds. If this power be applied to overcome the friction and gravitation of additional load, it would be equal to the traction of 30 per cent. of the gross load in this case, and we may, therefore, safely add 1 3 to the load, if this reduction in velocity is permitted. By this reduction in velocity a loss of time is caused, half of which may be regained by an increase of speed on the descending planes, when the power of the engine will be aided by the same amount of gravitation, which was overcome in the ascent. This question will be further modified by the intervening planes of lighter ascent and descent, and those that are level.

Not to go into too much detail, it may suffice to assume that all the grades on the *interior line* that are below 14 feet per mile, will permit the engine to maintain an average speed of 35 miles per hour; and those above this, being for the most part 16 and 17 feet per mile, will cause some retardation. For the *river line*, all that are at and under five feet per mile, will also allow the maintenance of an average speed of 35 miles per hour, and all over this being 10 feet per mile, will cause some retardation. The time required to perform one mile at the rate of 25 miles per hour, is 686-1000 of a minute greater than at the rate of 35 miles per hour, and if half this is regained by increase of speed on the descending planes, the loss of time per mile of heavy plane in the ascent, is equal to

343-1000 of a minute. Multiplying the number of miles in each plane by this fraction, will give the total loss of time caused by the proposed increase of load, and is

For the interior line—
25,312 miles, a ·343 = 8·682 minutes.
For the river line—
6,625 miles, a ·343 = 2·272 "

Difference in favor of river line - - - 6·410 "

A grade of half a mile in length, of 15 feet per mile, occurs on the river line, which has been included in the length of road having a grade of 10 feet per mile, but has not otherwise been considered, for the reason that it terminates at the point designed for a depot at Poughkeepsie, where the speed would necessarily be reduced for the purpose of stopping the train, and because its length is not sufficient to produce any practical impediment to the progress of the train.

From the computation above stated, it appears that the loss of time by the interior, as compared with the river line, will be about 6½ minutes; but this loss, in consequence of the extra length of the river line, being mainly a level, would have some advantage over the undulating plans of the interior line. It does not, however, appear important to enter into further details.

It is necessary now to determine the number of passengers that may be transported, or that will make up the load of the engine.

For through passengers, with the usual allowance for baggage, the following estimate has been prepared:

A car capable of accommodating 50 passengers, is estimated to weigh, when empty, - -	7 tons.
50 passengers at 150 lbs. each, -	3·34
Baggage, at an average of 40 lbs., with twice and a half the weight in car to carry it, is equal to 140 lbs. per passenger, and 50×140 gives for gross load of baggage and car -	3·12
To'al for 50 passengers -	13·46

Equal to 3·64 passengers per ton of gross load.

Consequently, we have on the several planes above investigated, as follows, (adding 1·3 on the ground before stated,) viz:

	Passengers.
On a level - -	94×3·64=342
On ascent of 10 feet per mile, $\left\{52·66+\frac{52·66}{3}\right\}$	×3·64=255
On ascent of 17 feet per mile, $\left\{37·03+\frac{37·03}{3}\right\}$	×3·64=180

The trains would probably average 2·3 of a full load, and the number of passengers then would be

On a level - - -	228
On ascent of 10 feet per mile - -	170
" 17 " -	120

If the running velocity be reduced to 30 miles per hour, and an average of 26 miles per hour, including stops, as for a way train, the load may be increased about 1·3 of the above, and the average would be,

	Passengers.
On a level - - -	304
On an ascent of 10 feet per mile, -	227
" 17 " -	160

The great difference of the loads on the several planes arises from the causes before mentioned, and the large amount of power required to overcome the resistance of the air, which, being nearly the same on all the planes, must first be deducted from the power; thus reducing the useful effect, and varying the ratio of the weight of engine and tender to the total load transported.

To increase the load on the 17 feet ascent, to that above given for a 10 feet ascent, it would not be necessary to increase the power of the engine in the proportion above stated. The resistance from air would be essentially the same, and it would only require sufficient additional power to overcome the resistance from friction and gravitation, which would be about 25 per cent. This, however, does not affect the correctness of the above comparison; it only shows that for a larger engine the ratio of useful effect would compare somewhat more favorably for the heavy planes: for the larger engine, if on a 10 feet plane, at the same velocity, would carry a corresponding increase of load, leaving out of view one element of resistance common to both.

The class of engine assumed in the preceding computations, is one that is regarded as well adapted to a high velocity It may be found expedient to adopt a larger class; but for the work it may do, this will probably operate as economically as any other, and therefore, the comparison is a good one for the several planes.

Such an engine may be run at an expense of forty cents per mile, and the repairs of cars, road and stations, and all other expenses, will be fully provided for at forty cents more, making the total expense per mile run, eighty cents. To use a larger class of engines, will increase the expense of repairs, both of engines and road, and require a corresponding increase of fuel. The addition of twenty five per cent. to the weight and power of the engine, is estimated to add ten cents per mile to the expenses for power. The data from which this result has been obtained, are not yet clearly settled, as it is not known what the comparative influence of heavy and light wheels is on the cost of both engine and road. The question is regarded, however, in its application to high velocities, as quite important, and experience may show it to be greater than provided for above. As the planes will extend a controlling influence over the whole road, it appears that the expense of a train carrying the same number of passengers by the interior route will be $14 20 more than by the river route.

The averave number of passengers, as before stated, for a train moving at 35 miles per hour, on the river line is 170. The cost of transporting them will be as follows:

On the river line, - -	$115 20
On the interior line - -	129 40

170 passengers at $1 50=$255.
Receipts over expenses:

On the river line, - -	$139 80
On the interior line, - -	125 60

The cost of transportation per passenger at speed of 35 miles per hour, is—

By river line, - -	67 8-10 cents.
By interior line, - -	76 1-10 "

Difference in favor of river line 8 3 10 cts.

In a large passenger train, at a speed of about 22 miles per hour, or so as to make the time between New York and Albany 6½ hours, an engine with two pairs of driving wheels, and weighing 20 tons, would be able to transport—

On the river line, -	500 passengers.
On the interior line, -	375 "

This cost would be the same in either case, except the difference in the additional cars for the larger number, which is estimated at 10 cents for each passenger, or $13 50 on 135, which is the excess in the number of passengers.

The cost is estimated for the train—

River line, at - -	$140 00
Interior line, at - -	126 50

Cost per passenger:

River line, - -	28 cents.
Interior line, - -	33 7 10 "

If the load be reduced 1 5th for an average, the cost will be, on the—

River line, -	35 cents per passenger.
Interior line, -	42 1 10 "

The preceding computations show two important features in the economy of a passenger traffic, viz: That arising from large trains, or a full load, as compared with a partial load; and that arising from a moderate velocity, as compared with a high velocity, a speed of 32 miles average velocity costing about double that of 22 miles.

To be Continued.

St. Lawrence and Atlantic Railroad.—
Continued from page 134.

ENGINEER DEPARTMENT, ST L. & A. R.R.,
Montreal, January 10, 1848.

HON. A. N. MORIN, *President.*

SIR: I have the honor to submit my second annual report of the operations of this department.

The Montreal division of your road extending to the township of Acton, a distance of 45 miles, was placed under contract in the fall of 1846, but the season had so far advanced as to allow of but a small amount of work being done before its close.

At the commencement of the past season, measures were early taken for the advancement of the work, under the immediate superintendence of R. T. Bailey, Esq., resident engineer, who had made the location.

The late and unfavorable opening of the spring, the scarcity of laborers, and the financial affairs of the company, during the past season, did not permit so vigorous a prosecution of the work as was desirable—yet very good progress has been made.

Under these circumstances it was deemed advisable to place the force principally on the work of the first 16 miles extending from the St. Lawrence to the Richelieu river, in order that the embankments might become consolidated, and the laying of the track be commenced early the coming season. This work

is in an advanced state, and may be completed and opened for use in the month of August next.

The grading on the east side of the Richelieu river will, in the meantime be urged forward, and completed at the same time, and the extension of the track on this part of the line will be much facilitated by the use of the road for transporting building materials.

A considerable amount of this grading and masonry is, however, already completed, embracing the heavy embankment forming the east approach to the Richelieu river bridge, and the culverts and embankments required in crossing several large ravines at the base of Belœil mountain. The work is in progress on other sections of the road, and there are now about five miles of the grading completed on the east side of Richelieu river.—On the heavier portions of the work, the grading will be continued through the winter.

The Richelieu river bridge is an important structure, and a large amount of work has been done upon it. This bridge consists of six spans of 150 feet each, and a draw near the west shore of 55 feet span. The superstructure is to be erected on the plan of Howe's improved patent, having iron bearings, and to be of the decked form, the track resting on the top chords. The wood work is designed for a single track only, the trusses being placed 12 feet apart in the clear, giving a top width of about 18 feet.

The masonry is designed for a double track and when the second track is required, it may be added by adding the third truss to the superstructure.

The foundations of the piers and abutments are from 45 to 50 feet below the grade of the road, and in water varying from 3 to 8 feet in depth at low water.

There are six piers and two abutments, including the masonry for the draw: the foundations of the abutments, and of all the piers except two, are in, and the masonry carried up, ten feet above low water. Nearly all the stone required for completing the masonry are dressed, and delivered ready to be laid in the spring.

A large portion of the timber and iron required for the superstructure is delivered, and the whole work, it is confidently believed, will be finished by August next.

The country through which the first division of your road is located, presents a uniform and even surface, and is generally in a high state of cultivation.

The roadbed is mostly on embankment varying from three to six feet in height, which is formed generally with earth excavated from side ditches.

This gives a dry and permanent roadbed, and facilitates the removal of snow from the track in winter. The grading is for a single track, having a width of roadbed in excavations of 22 feet, and on embankment 15 feet, with slopes in the ratio of one and a half feet base, to one foot rise.

The lignment of this division of the road may be considered highly favorable, nearly 95 per cent. of the whole distance being straight line.

The following is a synopsis of the grades:

Level	13·20	miles.
From 1 to 10 feet per mile	12·39	"
Do. 10 to 20 "	5·79	"
Do. 20 to 30 "	4·69	"
Do. 30 to 40 "	3·82	"
Do. 40 to 45 "	5·11	"
Total distance	45	"

The track of your road consists of longitudinal sills, 8 × 12 inches square, embedded in gravel or broken stone. Cross ties of Tamarack timber, 2 1-2 inches thick and 6 in. wide, are inserted in the upper side of the sills by a dovetail joint, and retained in their places by wedges of the same description of timber.

The ties have a shoulder of three-quarters of an inch abutting against the inner side of each sill, which with the action of the wedges, draws the whole together to an exact line, and effectually prevents any spreading of the track.

When it is required to renew ties, it is only necessary to knock out the wedges, remove the defective tie, and insert others without disturbing the iron.

The surface of the tie and the longitudinal sill is on the same plane which gives a continuous bearing for the rail.

The rail is of the bridge pattern, weighing 63 lbs. per yard, and is laid along the centre of the sills, to which it is spiked at intervals of about 3 feet. The joints of the rails are secured by cast iron chairs, 5 inches wide, 8 inches long, and three-quarters of an inch in thickness, weighing about 11 lbs. each.

There are three upward projections in the chair, the two outer ones being equal to the thickness of the base of the rail; the middle projection is one inch in height, and fits into the cavity in the centre of the rail.

The chairs are fitted into the sill even with its surface and spiked down, the head of the spikes lapping over the base of the rail, which, together with the projection in the chair, prevents any displacement of the joints.

This form of fastening permits the removal of a rail without disturbing the adjoining one or the chair. To provide for the changes in the length of the bars, caused by variations of temperature, the extremes of which are very great in this climate; also, to guard against a troublesome longitudinal movement of the rail, always experienced on railways, a centre plate of about half the weight of the joint chair is inserted. This plate has a seat for the rail similar to the chair, having two inward projections fitting into openings cut in the base of the rail of corresponding size.

This retains the rail in its position longitudinally, while it requires the movement from change of temperature to take place from and towards the centre of each rail, provision being made for this by leaving sufficient space between the ends when the iron is laid.

This description of track is less liable to derangement from frost, and costs much less for repairs, than a track with cross sills. The motion of the cars is easier and more agreeable to passengers; there is less danger of accidents, and when they do occur, are usually less disastrous. The cost of repairs of machinery is also materially diminished by the smooth, uniform, and slightly elastic surface, afforded by the continuous bearing.

All the timber required for the track of 30 miles of road, has been contracted for, to be delivered at different periods on the line, and at such periods as will allow the whole to be laid the coming season.

There are 1600 tons of iron delivered, which is sufficient for 16 miles of track, and the remainder can be ordered at such time as the progress of the work will require its use.

The business of acquiring the titles to land for roadway and stations, having been performed by the engineer department, it is proper that I should here allude to the subject.

In December, 1846, Mr. Bailey was appointed by the board, commissioner for negotiating for the right of way, and securing to the company in due form, titles to all the lands required for the purposes of the road.

The duties of this office have been performed by Mr. Bailey, in addition to his duties of resident engineer of the first division of the road.

From the report of that gentleman on this subject, it will be perceived that this has been a most arduous and responsible service; unusually so, owing to the great number of proprietors to be settled with, there being 304 in a distance of 30 miles. The farms are usually long and narrow, and the road crosses them in the most unfavorable manner.

Under these circumstances, it becomes necessary to construct numerous crossings, passageways gates, etc., which rendered the final settlement of all claims not only difficult and tedious, but added materially to the expense of construction.

I have the pleasure to state that, of the 304 claimants, 279 have been settled with, and conveyance made to the company, and in nearly all of the remaining cases, the terms upon which the company are to receive the land, have been agreed upon. Little, therefore, remains to be done to close up the whole business of right of way for 30 miles of road, except the making of the payments, and the execution of the deeds for the remaining cases.

Of this distance, 23·7 miles have been settled by negotiations with the proprietors, and the remainder by arbitrators; the average cost of this distance, including notarial and all other expenses, has been £9 per arpent.

The total cost of all the land required for roadway, and stations for 30 miles of road, including all expenses, will be £9,215 15s., which does not vary materially from the original estimated cost. A large amount of ground has been purchased for the St. Lawrence terminus, which will afford ample accommodation for the most extended business.

The building of the gates and fence required for this 30 miles of road, have been contracted for on favorable terms.

The total disbursements made through this department, up to the close of the fiscal year was £80,529 2s. 8d.

Plans, specifications, etc., are completed for the wharf at the terminus, for depot buildings, and the various descriptions of cars required for the business of the road.

I would propose that the buildings be of a

cheap character; of sufficient dimensions to accommodate the anticipated business of the road for several years, reserving the means of the company for the more important purpose of extending the road into the country.

As the road is extended, and its business increased, enlarged buildings of a more permanent character may be erected, suited to the wants of the road when completed.

The surveys for the extension of the road were commenced in May last, at St. Hyacinthe, under the superintendence of W. H. Vining, Esq., an engineer of much experience, and continued till the 1st of December.

It was deemed advisable to organize but one party of engineers, which should be under the immediate direction of a competent engineer, who should inspect personally the whole country, as the surveys advanced.

These surveys cover a great extent of country, the whole of the main line of the road having been surveyed to the boundary line at Canaan, Vermont, and also the branch to the line at Stanstead.

The nature of the country is such between the Yamaska and St. Francis rivers, as to require a number of trial lines to be run, with a view to a selection of the most favorable.

The road is straight after attaining the table land on the east side of the Richelieu river, to a point about three miles east of St. Hyacinthe, giving a tangent, passing this place and crossing the Yamaska river, of nearly 15 miles in length.

From this point, and from St. Hyacinthe, several lines have been surveyed, extending the road on a straight line, to a point in the valley of Moose river—a distance of about 16 miles, crossing the country between the Yamaska and Black rivers, and the latter stream three quarters of a mile above its most northern bend.

These lines cross the Black river twice, and require the channel of Moose river to be changed slightly at two points.

It is desirable to trace other lines across this section of country, one of which should pass the northerly bend of Black river, with a view of avoiding the construction of the two bridges required for the present lines. Other portions of the country between Moose river and the St. Francis, require some further explorations, to determine on the best ground for the final location of the road. This, however, with our present knowledge of the features of the country, may soon be accomplised.

The examinations of this year, demonstrate conclusively, that still further improvements may be made on this part of the line, which will result in a material reduction of the gradients and the cost of the work.

The surveys have been extended through the valley of the St. Francis, and a final location of the road made for a distance of 22½ miles. Considerable curvature is required for this part of the line, but the grades are generally easy, and the work, with some exceptions, is not of an expensive character.

This line leaves the St. Francis valley at Lennoxville, thence the vallies of the Massawippa, Moes, Coatticook and Leach, streams, are followed by the various routes surveyed to the boundary line of the United States.

The diverging point of these several lines is about one and a half miles south of Lennoxville. From this point to the boundary, the country is more irregular, requiring heavier curvatures, gradients and work, than on other portions of the road. It is on this divisicn that the more elevated section of country, dividing the waters of the St. Lawrence and the Connecticut rivers, is crossed.

There are several routes by which the boundary may be reached, two of which have been examined, and also the branch line to Stanstead.

The remaining main routes, and several subordinate ones, connecting those already surveyed, must be examined before a decision can be made as to which the preference should be given for the final location of this part of your road

From the character of the country it became necessary to survey many of these lines with great care, for the purpose of comparison; and in case of their final adoption, they may be regarded as actual locations.

The aggregate length of line surveyed the past season is over 150 miles, of which 70 miles are approximately located, 34 miles definitely located, and the remainder experimental lines.

For the accomplishment of so great an extent of surveys by only one party, I am indebted to the energy and skill of Mr. Vining, and the gentlemen acting as his assistants.

The maps, profiles and estimates, are in progress, and as soon as they are completed, I shall be able to submit for your considration the details and results of these surveys.

I have the honor to be, Sir,

Your obedient servant,

A. C. MORTON, *Chief Eng.*

Duties of Shareholders and Directors.

We copy the following just remarks of the able editor of the London Railway Chronicle, in relation to the duties of railway *directors* and *shareholders*.—We look with a good deal of interest for the reports of the principal English railway companies; and shall endeavor to publish some of the principal of them when received.

FORTHCOMING HALF-YEARLY REPORTS.

The general meetings, on the eve of being held for the production of the last half year's accounts, will in some respects exceed in importance any that have hitherto taken place. The condition of railway property, for some time to come, will depend in a great measure on the nature of the reports to be made, as well as on the conclusions announced and the measures determined upon at these meetings. As regards the business during the last six months on lines that are fully at work, it will be a matter of serious interest to all concerned to know what endeavors have been made to obtain from the gross receipts the largest possible share of net income, and what success has attended such endeavors. That directors will have generally felt the importance of strictly controlling the current expenditure, under the circumstances of the last half year, we cannot permit ourselves to doubt. The clear profits realised on the working business, they must know to be the object of peculiar solicitude at the present moment, both as regards the proprietors' satisfaction for their past outlay, and with a view to their confidence in the further operations which are still before them on so large a scale. At a time when the money demanded for the latter is not raised without difficulty, it will naturally be desired that of the earnings of the money already invested, the fullest possible advantage should be taken; and as the value of practical evidence to this effect in the half year's accounts will be great, on the other hand, will the appearance of a contrary result be in no little degree discouraging. To this subject we called especial attention at an early period of the half year now ended—we pointed out some months since the necessity of studying, by every means consistent with the efficiency of the service, to economise expenditure, and to arrange the working business in the most profitable manner for those concerned in its results.

There can be no doubt whatever that, with due regard had to these important objects, much may have been effected in both ways. The reports of the half year's business, to which we shall look with more than usual interest, will show how far they have been attained by the directors in each company respectively.

On many former occasions we have had to remark the passive attitude of proprietors at general meetings, when this topic was presented to them. From them, in such public assemblages, at least, directors have rarely heard the slightest expression, from which it could be discovered that the profits of the business were at all a subject of concern to them—that they were highly interested in obtaining the best possible dividend by the utmost care applicable to the husbanding of its earnings; or that any peculiar anxiety existed in their minds with respect to the future income of their capital. This seeming apathy has often surprised us; it is probable, however, that a very different feeling will be displayed at the forthcoming meetings Nor shall we be at all sorry indeed, to see a change in this respect, provided the proprietors—as will sometimes happen—do not run from one extreme to another; although it may be sincerely regretted that the motive which is likely to quicken their attention to this most essential part of their afforts should be found in the somewhat declining appearance of their property.

We have often said, and we now repeat, that we have no sympathy with captious inquiries, and ignorant suspicions of the directors whom a company have deliberately entrusted with the charge of their undertaking. The vague desire of opposition, no less than a groundless distrust, can only disorder proceedings, discourage practical suggestions and in other ways prejudice the interests at stake. But without falling into any such courses, the proprietors, when periodically called together, may, with the utmost advantage, make known to the directors, temperately and plainly, the importance which they do in reality attach to the matters we are now speaking of.

It is due to themselves; it is no less a duty they owe to the board they have chosen, to represent to it what they feel to be the main objects of their association. This may be done without in the least entrenching on the confidence, generally, and very properly, reposed in their directors; to whom the friendly instructions of the company, on occasions which are especially appointed for the expression of its views and wishes, cannot be otherwise than useful, and can in no sense be deemed either distrustful or intrusive, while conveyed in a proper manner. They are indeed the guarantee against vexatious differences, between a board and its constituents. When these arise, it will generally be found that the breach has been preceded by a long period during which the shareholders have given the directors no trouble whatever, leaving matters to take their course, until at length the results of the proceedings they have gone on passively regarding, or blindly approving of, begin to tell disagreeably on themselves. Their impatience at this stage, is usually in exact ratio to the indifference preceding it; and the proprietors may then be seen quarrelling with the consequences of measures, for which their own neglect of any previous caution, or hint to the directors, makes them as fully responsible as those whom they are at last angrily disposed to censure. Against such contingencies the best remedy—before the business begins to wear a doubtful aspect—is the frank and amicable communication of the proprietors' opinion to their directors; a proceeding useful to both at all times, but most especially apt to show its good effects in seasons when straitened means and somewhat clouded prospects may render it absolutely necessary that the management of affairs should be so handled as to secure the chief and immediate object of these undertakings, in preference to others more inconsiderable and remote.

Gutta Percha.

The Boston Courier gives the following interesting and important letter from Prof. Webster, of the Massachusetts Medical College, in relation to this recently discovered article, which bids fair to be of great utility for a variety of purposes.

If we are not mistaken, the enterprising "*India-rubber King*," H. H. Day, of New York, has fitted out an expedition to Borneo, with ample apparatus for collecting this useful material. We have heard that such is the fact, and if it is so, we shall surely know more about it—as he seldom touches an article, or a business, that does not *adhere*. Such at least has been his operations in the India-rubber line;—and we wish him ample success in this new enterprise.

This substance was first brought under the notice of the Society of Arts in England, in 1843, by Dr. Montgomerie, who obtained specimens of it at Singapore in 1842. The tree from which it is procured is stated by Sir W. J. Hooker to belong to the natural order *Sapotaceæ*. It is found in abundance in many places in the island, and in some dense forests at the extremity of the Malayan peninsula. It is also found on the west coast of Borneo, and is called there Niato. The tree attains a considerable size, even as large as six feet in diameter. The timber is of little or no value, on account of the loose and open character of its tissue; but it bears a fruit which yields a concrete oil, used for food by the natives. Gutta Percha is contained in the sap, and is procured by felling a magnificent tree of 50 or 100 years' growth, the bark is stripped off, and a milky juice exudes, which is collected and poured into a trough, formed by the hollow stem of the plaintain leaf. On exposure to the air, the juice coagulates.—From 20 to 30 lbs. is the average produce of one tree. This wasteful process is adopted to a very large extent, as may be conceived from the amount now imported into England, being many hundred tons annually.

This substance is imported under two forms—in thin scraps like clippings of white leather, and in rolls formed by rolling these layers together in a soft state. In the mass it contains various impurities, which must be removed before it is applicable to some uses. It is purified by kneading in hot water, and then appears of a whitish gray color, ductile, soft and plastic.

At and below the temperature of 50, gutta percha is hard as wood; it is excessively tough, and offers great resistance to an extending power. A ring made from a slip half an inch wide and one tenth of an inch in thickness, I find will support a weight of 150 lbs. without breaking. It has a good deal the appearance of horn, with a somewhat fibrous texture. At a temperature a little below the boiling point of water, it becomes soft, and is then easily cut and moulded into all varieties of form. It may be cut while thus soft, and by slight pressure united again as firmly as before.

Several patents have been taken out in England for methods of applying gutta percha to a vast number of purposes, to all those where caoutchouc has been so long employed and others. It is manufactured into thread for piece goods, ribbons, paper and other articles. Hancock's patent is the most comprehensive, who unites it with caoutchouc and another substance called jintawan, by which an elastic material results, impervious to and insoluble in water. The hardness and elasticity of the compound are varied by varying the proportions of the components. From this a curious substance is made, which is light, porous and spongy, suitable for stuffing the bottoms of seats, cushions, mattrasses, etc. Springs for clocks, clasps, belts and strings are made of it. By giving it greater hardness, it may be formed into picture frames, incredibly tough canes, door handles, buttons, combs, and maps for the blind, receiving and retaining a clear sharp impression. It has been proposed to apply it as a stopping for decayed teeth, being perfectly harmless. It can be united with coloring matters, and may then be imployed in printing; the colors so printed will probably prove as lasting as the fabrics or materials on which they are impressed. Several months since I received a few specimens of this curious substance for examination. It was found to possess so many valuable and useful properties, and to resist the action of water, acids, and many chemical agents so effectually, that I became desirous of obtaining sufficient for the formation of tubes for the conveyance of gasses, for the cementing brass caps to jars, and other laboratory purposes. In prosecuting experiments upon the specimens I first received, I arrived at a method of dissolving the gutta percha, and of applying it to any surfaces, without the aid of heat. Since receiving a larger supply of the substance, I have prepared from it a variety of articles—tubes, paper and cloth vessels, wholly impervious to water, sheets as thin as gold beater's skin, or as thick as a board, and have had a pair of shoes made from leather prepared with the solution, which are perfectly water proof, and have been put together without sewing, pegs, or nails. These shoes are pronounced by the maker stronger than he could make them by the usual method.

Having been called upon to examine the action of the Cochituate water upon the materials from which the pipes for its distribution in houses will probably be made, I have subjected the gutta percha to its long continued action. The water has received no impregnation whatever, has acquired neither taste or smell, and tubes filled with it have not been ruptured by the freezing of the water contained in them. Believing that, could a supply of gutta percha be obtained, it would be preferable to any other material, especially as regards the health of the community, I took measures for obtaining all the information abroad that could be arrived at. The result is, that the supply of gutta percha in England is as yet not equal to the demand.—Nearly all the raw article that goes to England has as yet been bought up by one company; but still it is to be had in the usual course of trade. The increasing uses for it, and consequent demand, have much raised the price in the past year. The price at late sales was 11d. per lb., to 1s. 3d., according to quality, in the rough lumps in which it is imported from India to China. Little or no tubing had been made, even experimentally, and none sold up to Dec. 2d. But the price of tube about $\frac{3}{4}$ths inch diameter, and of the usual thickness of lead pipe, it was thought would be about 7d. per foot. On the 18th of December the company were not much more forward in their ability to supply tube.

I learn from Washington that several applications for patents for manufacturing gutta percha have been made, but as yet no patents had been issued, although the company in London had sold their rights to parties in the United States.

It may be added, that the solvent I have discovered for gutta percha, is entirely different from ether or spirits of terpentine, in which it had been dissolved in England; that the solution requires no heat, and takes place rapidly, the original property of the gutta remaining unaltered. With a little of this solution, the stop cocks could be firmly attached to the tube, or a leak closed by any person, and the trouble and inconvenience so often experienced where lead pipes are used, would be got entirely rid of. J. W. Webster.

Lab. Mass. Med College, Jan. 24th.

Parcel Traffic on the English Railways.

We continue this subject from the Railway Chronicle, as we deem it one of much importance to railroad companies in this country, as well as in England.

If individuals can pay railroad companies for transporting crates of packages, and send a *special* agent by every train to have charge, and to deliver packages by the way; and then keep offices, clerks, and teams, in each principal city, to receive and deliver articles, why is it not worth the attention of railroad companies to do the same business on their own account, when they will be their own carrier—having a baggage master on the train, office and clerks at each principal stopping place—and can do the same service at half the cost to the community, and large profit to themselves. It seems to us that it is a legitimate, and may be made a very profitable, part of their business.

We shall continue to publish the articles on this subject as they come to hand; and endeavor to show that not only the companies—the stockholders—but also the public have a direct and deep interest in the adoption of a "*railway parcel traffic*," on the cheap system.

Practical Suggestions for Increasing the Parcel Traffic on Railways, etc., etc.,

Continued from page 118.

17. The next inquiry is into the nature of the service which the railways afford to the public in return for this profit of 7½ per cent, the charges to the public, and the principles, if any, which appear to determine and regulate those charges.

The following table exhibits the rates, the weight, and the distances, in the transit of parcels which are or were recently allowed by several of the most important railways:—

18. *Table Showing the Charges and Allowances for Weight made by some of the Largest Railroad Companies, for the Carriage of Small Parcels.*

	Distance in miles.	Present rate.	Weight in lbs.	Rate pr lb at max wt	Remarks.
1. London & N. Western.	Under 40	0s. 8d.	under 16	½d.	Above 16 lb. ½d. per lb.
	" 80	0 10		0·6	" ½d. per lb.
	" 120	1 0		0·7	" 1d. per lb.
	" 160	1 6		1·01	" 1½d. per lb.
	" 210	2 0		1½	" 2d. per lb.
					Above rates do not apply to parcels consigned beyond the immediate vicinities of the several stations, nor to those proceeding by branch coaches, for which special rates may have been fixed.
2. Eastern Counties	Bishop Stortford 32, and under	0 6	not specified.		Small parcels packed per cwt., 2s. 6d., and 3s. exclusive of collection and delivery.
	Cambridge 52	0 7			
	Brandon 88	0 8			
3. Great Western	Oxford 63	0 10	under 12	0·83	Above ½d. per lb.
	Reading 36	0 9		0·75	Above ½d. per lb. collection
	Chippenham 94	1 3		1	Above ½d. per lb. and delivery
	Bristol 119	1 3		1·2	Above ½d. per lb. included.
	Exeter 194	1 6		1½	Above ½d. per lb.
4. South Western	Any place between Farnboro', London, etc., 31	0 8	under 28	0·28	Collection at the stations, and delivery within certain distances included.
		1 3	under 56	0·21	
		1 4	" 112	0·14	
	Sauthampton 78	1 0	" 28	0·4	
	Gosport 88	1 6	" 56	0·3	
	Salisbury 94	2 0	" 112	0·2	
5. York and N. Midland.	London to York 220.	2 6	" 15	2	Above 15 lb. 2d. per lb.
	York to Bifm. 128	1 6	" 12	1½	Above 12 lb. 1½d. per lb.
	" Sheffield 52.	1 0	" 24	1	Above 25 lb. ½d. per lb.
	" Filey 50	0 6	" 12	½	Above 12 lb. ½d. per lb.
6. South Eastern	London to Dover 88.	1 0	" 14	0·805	Above 28 lb. ½d. per lb.
	Margate 101, or any intermediate place	1 6	under 28	0·604	Every additional 28 lb. 6d., or 0·21d. per lb., collected and delivered free within 2½ miles of Somerset House, and to market towns within 3 miles, and other places within a mile of the station. The charge for parcels any distance under 12 miles is two-thirds of the *through* charge; thus 14 lb. cost 8d., or 0·57d. per lb.
7. Brighton & S. Coast—London and Brighton, or any intermediate place	50½	1 0	under 14	0·85	
Or any place on br. lines	83	1 6	14 to 28	0·64	
London to Hastings		2 0	28 to 56	0·46	
London to Havant	88	2 6	56 to 84	0·35	

19. This table shows what a total absence of all principle there is at present regulating the charges for small parcels on railways. There is disagreement as respects the rate, limit of weight, and the allowance of distance. All, however, agree in avoiding the adoption of that minimum charge per pound, which is fixed after a certain point. The lowest, or commencing charge of the Eastern Counties, and York, and North Midland, is 6d.; the London and North Western and South Western is 8d.; the Great Western is 9d. The London and North Western take 16 lb. 40 miles for 8d.; the South Western take 28 lb. 30 miles for 8d.; the Great Western take 12 lb. 36 miles for 9d.

20. The London and North Western disregard any distance under 40 miles, or between 40 and 80 miles; the Eastern Counties disregard all distance under 30 miles; the Great Western under 36 miles; the South Western under 31 miles; the York and North Midland under 50 miles; but each and all fix a uniform rate by WEIGHT after a certain starting point.

21. The nearest approximation to a principle of charge seems to resolve itself into an average rate of about ½d. per lb. for 40 or 50 miles after a certain fixed maximum weight is attained; but all the railways shrink from applying their rates at a *low* point, and the reason undoubtedly consists in the excessive charges incurred in the receipt and delivery, and in the great amount of risk and responsibility which the present state of the law fixes on railways.

22. It must not be forgotten that this charge of ½d. per pound for 50 miles includes not only carriage on the railway, but the far more costly items of the receipt and delivery of the parcel, and that too in many cases by agencies independent of the railway, such as coaches and small carriers. What proportion of parcels have to bear the cost of an independent agency, for receipt and delivery, it is not very easy to determine accurately, and not very important to be known.

23. It is very difficult to ascertain the cost of this agency precisely, which varies from 2d. to 3d. and 4d. each parcel for delivery, without regard to the weight or size of the parcel. Thus, I believe, the London and North Western pay to the agents, who take 2d. for "booking," at least in London, nothing for receipt, but 4d. for the delivery of each parcel within the three mile circle of St. Martin's-le grand; and 3d. in Birmingham. In small towns and other places within certain moderate distances of the stations, the receipt and delivery are managed by the railway itself and its own porters.

24. These charges, calculated at the maximum weight which they cover, are certainly very low; but, low as they are, they cannot successfully compete with those of the post office or the carriers, owing to the mode in which they are assessed.

25. No one, however, can reasonably contend that the charge already established, say at the rate of ½d. per pound for 50 miles, is not quite as *low* as is necessary for the public, and quite as high as is necessary for the railways, seeing that it yields a profit of 80 per cent. after paying all expenses. But the question arises, is there any *rationale* for disregarding all weight under 16 or 12 lb.? I can discover none, except that the risk of loss makes it the interest of the railways positively to *discourage* small parcels; but this is the consequence of the state of the law, which certainly wants modification. The present system undoubtedly causes *small* parcels to pass through the post office, through the hands of carriers and through private hands. Small parcels are sent from London in many thousands to country booksellers every month indirectly through the large publishing houses, rather than directly through the agency of the railways. This system of evasion is practised to an enormous extent. Every one in a provincial town who has an account with the bookseller of the town, tells his London correspondent to send his parcel to Messrs. Longmans and Whittakers, with 2d. on "magazine" day, and the parcel is thus sent to the country bookseller with his monthly or bi monthly parcel of books. Anomalous as it seems, I know that the railways do not

object to the booksellers' parcels. They prefer bulk, because the risk and great charges for delivery are avoided. Then there are certain parties in London and the large towns who systematically collect small parcels and send them in bulk. The following is a copy of the bill of one of these agents, who drives a flourishing illicit trade in most of the great towns:—

General Parcel Booking office, ———. Parcels forwarded from this office, by —— ——, to all the principal cities and towns in England, every evening, by luggage or mail trains, at the following prices, which, upon comparing them with *any other* tariff, will be seen to be considerably lower than anything ever yet attempted.

Rates Including Delivery.

	Mail train.			Luggage train.		
	Under 1 lb.	Under 6 lb.	Under 8 lb.	Under 6 lb.	Under 12 lb.	Under 18 lb.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Coventry	0 6	0 9	1 0	0 6	0 9	1 0
Birmingnam	0 6	0 9	1 0	0 6	0 9	1 0
Derby	0 9	1 0	1 2	0 9	1 0	1 2
Nottingham	0 9	1 0	1 2	0 9	1 0	1 2
Sheffield	0 9	1 0	1 2	0 9	1 0	1 2
Manchester	1 0	1 3	1 6	0 9	1 0	1 6
Liverpool	1 0	1 3	1 6	0 9	1 0	1 6
Leeds	1 4	1 8	2 0	0 9	1 2	1 8
York	1 6	1 10	2 3	1 0	1 4	1 9
Hull	1 8	2 0	2 6	1 8	2 0	2 6
Newcastle	2 0	2 6	2 9	2 0	2 6	2 9
Bristol	0 6	0 9	1 0	0 6	0 9	1 0
Gloucester	0 9	1 0	1 2	0 9	1 0	1 2
Dublin	2 3	2 6	2 9	2 0	3 0	3 6

From thence despatched to all the towns and villages adjacent.

The railways have it in their power to defeat all this, and get great popularity and profit in doing so.

26. It may be at once admitted that the charge by the railways of only ½d. for a parcel of a single pound would not be sufficiently remunerative; but granting this, there is surely no reason for making the charge at once always as high as 6d., and generally much higher. If smuggling can with profit take a parcel for 6d. to Coventry by means of the railway, why should not the railway do it?

27. The four great elements of cost in the transit of railway parcels are receipt, carriage, delivery, and risk. I will endeavor to determine what these are:—First, as respects carriage; an analysis of the London and Birmingham accounts, before mentioned, for six months in 1845, shows that for parcels per ton per mile, the receipts were 18·166d.; charges, 3·566d.; net receipts 14·600d.

28. Thus we see that the cost *per ton* per mile for maintenance of way, locomotive, police, coaching, and merchandise, coach and truck repairs, general charges, mileage duty, depreciation, rates and taxes, and delivery, and in fact, for all charges whatever in the gross, amounts in the whole to 3·566d, or about 3½d. per mile, but say 4d., to take a round number; 4d. per ton per mile is at the rate of 0.0017d. per pound per mile. so that the cost per pound to take it from London to Birmingham, 112 miles, and there deliver it, is just at the rate of 0.2d., or less than a farthing, including all charges whatever.

29. This calculation is based upon the gross weight and gross receipts from parcels; but as 0·2d. per pound pay all these expenses in the gross, *a fortiori*, that sum may be taken as an ample allowance for the cost of the railway expenses proper only, EXCLUSIVE OF RECEIPT AND DELIVERY. The cost of *carriage*, meaning locomotion only, per pound is the same to the railway, whether the pounds be separate pounds or several in one parcel. We will therefore assume 0·2d. as ample payment for the carriage only, of a pound for 112 miles.

30. Now what shall we add for *receipt* and *delivery?* What is the cost to the railway at present? Nothing for receipt, but 3d. for delivery in Birmingham, and 4d. in London. In small places the delivery is executed by the porters of the railway, and does not become an extraneous cost. Most probably the average cost of receipt and delivery, taking all parcels whatever, is not 3d. per parcel. And this sum, if the number of parcels were increased, might certainly be reduced.

31. The present charges of 3d. for delivery in Birmingham, and 4d. in London, is a high charge, and one which doubtless stands in the way of much improvement in the mode of assessment. If the post office, besides carrying, can receive and deliver letters for 1d. with great profit, as it does, it is fair to ask another agency to do the latter services only for parcels at 2d. The weight of the parcel within certain reasonable limits does not affect the cost of receipt and delivery. Newspaper vending proves how cheap agency may be. The *Times* is actually fetched six, eight, ten miles, and then conveyed and delivered at subscribers' houses for 1d., the vendor taking also the risk of payment of the other 4d. The *Daily News* gives the vendor little more than ½d. for the same trouble. With systematic agency 2d. would be an ample remuneration for the receipt and delivery, including risk, of any parcel under 14 lb. weight within the three mile circle of St. Martin's-le-grand in the metropolis, and certain limits in the large towns. If the *metropolitan railways would combine to deliver parcels*, it might be done with profit at this sum; and we shall come to this at last.

32. The cost on a parcel a pound weight from London to Birmingham would therefore stand thus—

Receipt and delivery, (including cost and risk) say.....2d.
Carriage and other railway expenses.....0·2

What would be a proper charge to the public? If we say 3d., the railway would get more than 0·8d. clear profit; but it must be quite obvious that it would get this profit upon a much larger amount of business than it now does, and therefore the business would be so much the more remunerative. Besides, in those cases where there was no outgoing for delivery, the railway would get the full penny charged for it. To begin the scale of charge at one pound, and fix a charge of 3d., or say 4d. for it, between London and Birmingham, would be an immense boon to the public.

33. The charge being so *low*, it would be quite unnecessary to have any proportionate reduction of charge for the intermediate distances between London and Birmingham. No proportionate charge would therefore have to be made. Three or four pence (take 4d. if you please,) would be the charge for the transmission of a parcel of one pound in weight from London to Birmingham, and any place short of Birmingham. Hereafter the proper charges for subsequent weights will be determined

34. By the adoption of this charge, the railway might at once obtain every parcel above a quarter of a pound that now passes through the post office, other arrangements being suitable.

(To be continued.)

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IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

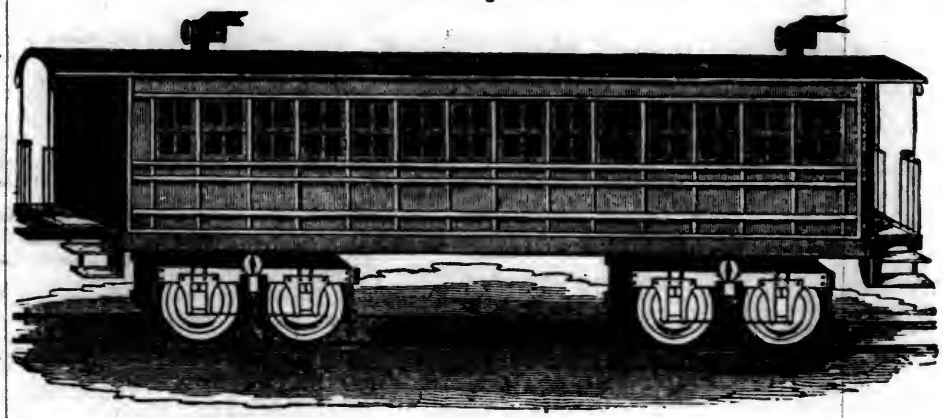
Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next. GEO. W. TOWNS, *Governor.*

WM. L. MITCHELL, *Chief Engineer.*
Atlanta, Ga., January 24, 1848. [7t6]

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TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

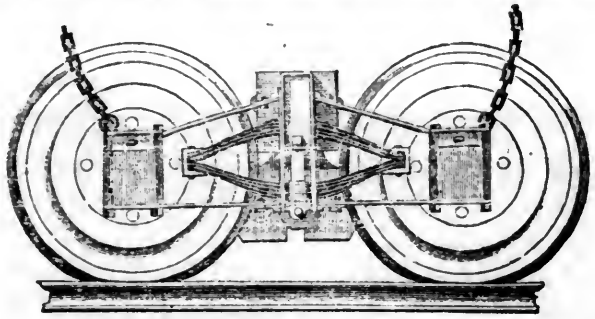
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
1tf Philadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO., *Agents.*
1y48 77 Pine St., New York.

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the best and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup't Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	21	–	50	15-16	20
13	3¼	8	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¾	5	2	6¼	9	4	13¼	1-2	7¼
16	2¾	4	3	6	8	8	10¼	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee

G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

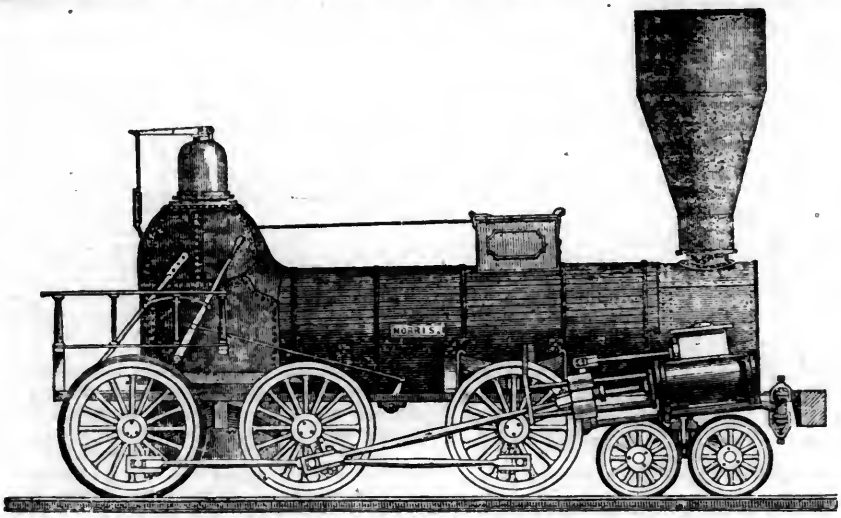
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

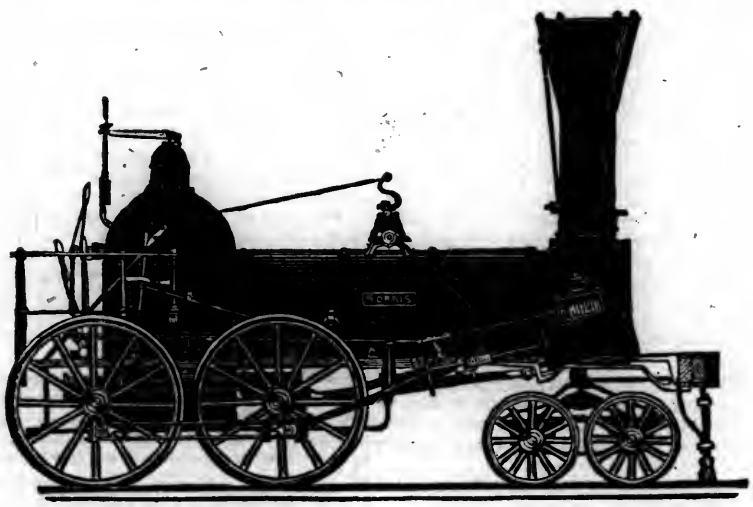
James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent*.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*.

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

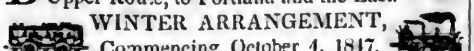
*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.



WINTER ARRANGEMENT, Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

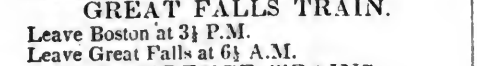
Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Havmarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:



Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

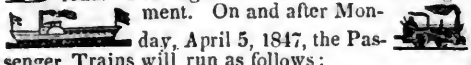
Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—



Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New-York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight rain at 10 a.m.

Freight train will leave 32d street for Croton Falls ad intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS. the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

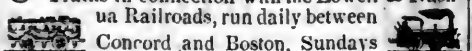
Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:



Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions han any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.



Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

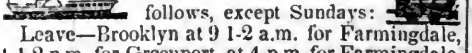
New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quantics of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:



Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

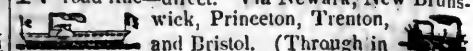
On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
15tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.



Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.
First class cars.....$4 00
Second class cars.....3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

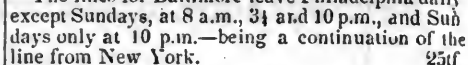
Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:



Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad.....10
Through tickets to Harrisburg or Gettysburg..3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

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CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions,

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga,

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

	Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,		92	$3·50 and	$3·00
" "	Reading,	58	2·25 and	1·90
" Pottsville	"	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 *P. M. Lines run.*

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12¾ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50.
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 41*1y

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise.] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

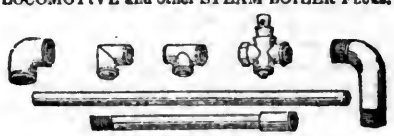
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

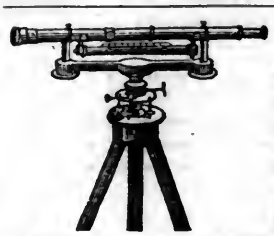
PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

LAP—WELDED WROUGHT IRON TUBES FOR TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER, and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

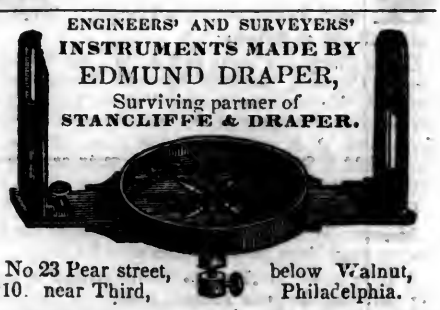
☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10. near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 11 | SATURDAY, MARCH 11, 1848 | WHOLE No. 612, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, March 11, 1848.

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

☞ To the patrons of the Journal, who have remembered us, and *remitted* the *current* year's subscription for the Journal, we desire to tender our thanks; and to those who have *not yet* done so, we make the *earnest* request that they will do it *without delay*—and more especially so where *arrearages are due*, as it is *out of the question* to make it what it *should be*, and publish it *regularly*, unless its limited subscription is paid *punctually in advance;* as its *annual* losses, from *delays* of payment, *changes* of residence, *discontinuance* without paying arrearages, and *death* of subscribers at a *distance*, has been nearly equal to the cost of *paper* on which it is *printed*—and *merely* for want of *attention*—not for *lack* of *ability*, or disposition—of the subscriber to pay *annually in advance;* necessity, therefore, requires us to call for, and to expect the payment hereafter in advance, that our undivided attention may be given to its improved management.

A Word with the Railroad Interest, and the Profession Having it in Charge, etc., etc.

Is it desirable to have a periodical devoted to this *mighty* and *growing* interest? *If* it is desirable to have a work, in which its progress may be noted, its improvements recorded, and *from* which its *history* may be written, it is but *just* that it should be *liberally* sustained, by an *extensive* circulation, and reasonable advertising patronage; to enable it to keep pace with the improvements of the age.

If *this* Journal is not what is desired, and *cannot be made* what it *should be*, as the organ, and medium of communication, of the *Railroad*, *Iron Manufacturer's*, and *Mining interest* of the country, let it be discontinued—and *forgotten; but*, if it occupies a position of *usefulness*, and may be made to contribute to the improvement of these vast interests of the country, by an extension of its circulation, is it not the interest of every person whose pursuits are connected with them, or whose capital is invested in them, to aid in extending its circulation? and the *duty* of every *engineer*, and *machinist*, whose business prospers when they prosper, *not only* to subscribe *to*, and advertise *in* it, but also to communicate to its pages, at the *earliest period*, such improvements as they may make calculated to advance the cause and benefit themselves? We think it is, and therefore call upon them, one and all, to do their part in *contributing to its pages*, in *extending its circulation*, and thus making it useful to themselves, and to us—as well as to those great interests to which it is devoted.

If *each present* subscriber, *railroad company*, and *manufacturer of railroad machinery* in the country, were to send in but a *single additional* subscription, it would enable us to employ able assistance in its editorial department, and to visit, during the current year, most of the railroads and manufactories in the country, and to become personally acquainted with them, and thus understand them better than it is now possible to do.

The Iron Trade.

The Wyoming Iron Works, at South Wilkesbarre, have, it is said, suspended operations. The Cumberland Mountaineer says that "the present proprietors of the Mount Savage iron works have concluded not to put them in operation, in consequence of the recent reduction in iron." It will be recollected that these works were not long since sold to eastern capitalists. It also states that the Lena furnace has suspended operations for want of funds.

Damages Awarded for Loss of Life and Injury by Railway Accidents in France.

In a recent accident on the Orleans railway, the Correctional Tribunal of Orleans refrained from awarding damages to the persons injured until it should be able to make inquiries. The parties not having been able to come to an arrangement with the company, the tribunal, in its sittings a few days ago, was called on to decide. One of these parties was a female named Garbe, of Orleans, who received some violent contusions; the company had offered her 500f., and the tribunal awarded her 1000f. The other party was the widow of a man named Perrin; the man having died after having both legs which were crushed, amputated. The tribunal awarded the widow and her children 15,000 francs, 14,000f. of which are to be placed in the public funds, the interest to be allowed to the widow for life, and at her death the fund to be divided among her three children. On the marriage of her two daughters, they are each to receive fortunes of 1500f., the same as their father allowed to the eldest girl, and the interest paid to the widow is to be reduced in proportion to the amount withdrawn. Finally, if the widow shall marry again, she is only to receive a third of the interest on the 14,000f.

The Price of Pig Iron.

"An erroneous statement, says the Baltimore Sun of 23d ult., has been travelling the rounds of the newspapers, to the effect that pig iron has declined $20 per ton. A correspondent states that the recent advance of some $10 per ton in pig iron was caused by an accidental, and of course, temporary scarcity of the article in the principal cities of this country, continuing, as it was generally predicted, but a short time—say from about the middle of September till the close of January—during which time prices advanced from $30 to $31 to $40 per ton. The market price is now $30 to $31 for best Baltimore forge pig, so that the actual decline is only $10 per ton, being precisely the advance that, unfortunately for the iron interests of this country, occurred as stated above."

The rails for the Connecticut River railroad, says the Boston Post, cost $82 50 per ton. During the week ending 12th February, 1848, contracts were made for rails, deliverable in New York, at $52 50. This at 90 tons per mile, will reduce the cost of rails $2700 per mile below the cost of several lines recently laid down, being less than $5000 per mile for iron on the road. No lines have been laid down so low as the present rates since rails were made subject to duty.

New York and Erie Railroad and Pennsylvania Legislation.

This great work is progressing rapidly, though somewhat impeded for want of legislation in Pennsylvania. To us this state jealousy in relation to important works of internal improvement, in which nearly the whole country is directly interested—appears, to say the least of it, short sighted, if not illiberal. After great effort and delay, an act was granted by the Legislature of Pennsylvania—which secured very important advantages to her citizens—allowing the company to pass into, and for about thirty miles, through her territory, thus giving her citizens in that region, easy access to market, and greatly enhancing the value of their lands, and at the same time securing to them the privilege of connecting with it at important points—yet putting the company entirely into the hands of individuals, in acquiring the right of way through their lands.

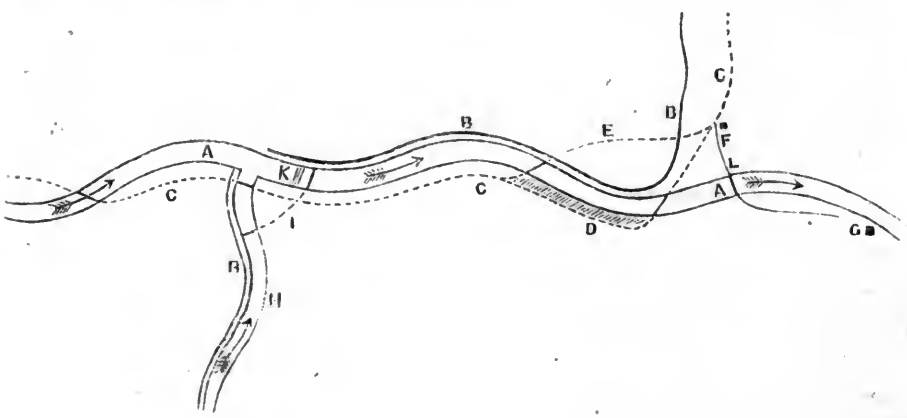
It is found that, by crossing into Pennsylvania at Port Jervis, as they are now allowed, and required, to do, they must encounter great difficulties in passing a bluff called the "glass house rocks," of about two miles in length, and from fifty to seventy feet in height, with the river directly at its base. Ice was found last year in those rocks in June, and they are unfit for walling—while the company is prohibited from throwing them into the river, as the obstruction may cause damage to the works of the Del. and Hudson canal on the opposite side. To avoid this difficulty, the company ask the privilege of crossing the river above the bluff, but they are opposed by a portion of the people below, on the ground, we understand, that when they wish to connect with it they will have to construct their road along this difficult pass at their own expense. In reply to this, the company engage—and we think it is all that should be asked of them to construct a branch from Port Jervis, and a bridge across the river, and meet them on their own ground, as would be the case were the present chartered line to be constructed.

When we recollect that this part of Pennsylvania is in a great measure secluded from other portions of the state, and from market—though its settlements were commenced nearly a century ago, they have made comparatively very little progress, while the *west*, not only of these two states, but also of the *United States*, has been redeemed from a wilderness, and filled with the population of an empire—it would seem that every facility possible would have been granted to a company that came with such benefits and blessings in their hands. Indeed it is said so secluded has this region been, that lands and farms once in cultivation, are now grown up to forest, even though the soil is good, and the resources great, merely for want of roads; whereas, now a great work is commenced, and in fact nearly completed, which will remedy all this, and bring the great flood of business and travel down from the west, to meet the current from the east, and thus give life and energy to business, and value to their lands—yet what do the people of Pennsylvania do in return for these benefits? Nothing apparently to aid, but rather exact terms which are a serious obstacle to its progress.

In order to place the subject in a clear light, we present the following sketch in outline, showing the relative position of the Delaware river, A A—the Delaware and Hudson canal B B B—the New York and Erie railroad, as *chartered*, C C C—the glass house rocks, desired to be avoided, D—the proposed new line of railroad to avoid the rocks E,—Port Jervis F—Millford, Pa., G—the Lackawanna river H—new line of Del. and Hudson canal, to cross the Del. and Lackawanna rivers by *suspension aqueducts*, now partly constructed, I—dam across the Delaware river, which has hitherto connected the canal in New York with that in Pennsylvania, K—and the *proposed* branch and bridge, to connect any Pennsylvania railroad which may be constructed to this point, with the New York and Erie road, L.

The difficulties with the land holders have all been overcome by amicable purchase—and in some instances, at a price which makes them *imagine* their lands *exceedingly* valuable! and the canal company presents no further obstruction to the progress of the work, therefore it is *very* desirable that the present application of the company should be granted, and speedily too, that the works may progress, and be completed at the earliest possible period.

We do not, by any means, desire to be considered as casting reflections in these remarks, or to charge intentional illiberality upon any one, but merely to present the subject as it strikes us, and to urge a *liberal* course upon those who have the power to *aid*, or *retard* this great work, which has, for so many years, had to contend with strong prejudices, and powerful rival interests at home; but which will yet, in spite of all opposition and prejudice, scatter blessings, and comforts, and wealth, upon thousands of those who have so long opposed it, and even *still* oppose it. It has been, however, like a mighty giant, bound with many thongs, powerless for a time, yet, by unyielding efforts, finally rises, and proceeds on his course, not, however, like the giant, overthrowing his opponents, but dispensing benefits, and even wealth to those who refused it even the right of way.



Southwestern Railroad.

We learn by the Savannah papers, that the Southwestern railroad from Macon, is in rapid progression; $259,000 cash subscriptions have been made A Mr. Dean has taken seventy-five thousand dollars of the stock, and he with others has contracted for. the completion of the first fifty-two miles of the road, from Macon to a point beyond Flint river; which portion will be done by the fall of 1849.

Iron Steamer Courier.

We have been furnished with an account of the extraordinary performance of this boat by Mr. Thomas Prosser, of New York, who was on board of her when her trial trip was made.

Performance of the English Iron Steamboat Courier, in an Experimental Trip on the Thames, below London, October 29th, 1847.

The "Courier" was built by Mare, for the new South West steam company; she is elegantly modelled, and intended to ply between Southampton, Gurnsey, and the adjacent ports; her burthen is 440 tons, length 170 feet, and breadth of beam 23 feet. She is fitted with Morgan's improved feathering paddle wheel, (Cave's) 20 feet diameter over all, 12 floats to each wheel 8 feet by 3 feet, and the wheels have an immersion of 3 feet 4 inches. The engines are direct action, of the annular ring piston kind, manufactured by the patentees, Messrs. Mausdlay, Sons & Field; the pistons are of equal area to ordinary ones of 52¼ inches diameter, and the length of the stroke is 3¼ feet, which they are calculated to repeat 40 times per minute, and thereby to give the vessel a velocity of 18 miles per hour through the water. The boilers are of the tubular kind, and were blowing off steam under a pressure of 16 lbs., during the whole trip, while the vacuum amounted to 26¼ inches. The aggregate power of the engine is equal to 450 horse, although nominally but 180 horse power.

The trip was from the Brunswick wharf at Blackwall to the Nore, rounding the "Mouse" light and back, a distance of 105 2-3 miles, which was performed entirely under steam in 5 hours 55 min., or about 17 5-6 miles per hour. From the wharf to the "Mouse" was done in 3 hours 20 min., and the return trip in 2 hours 35 minutes. At starting there were many obstructions in the river, so that for more than an hour the wheels never exceeded 36¼ revolutions per minute, on that account. She accomplished the first 21 miles with, and in the bottom of the ebb tide, in 1 hour 13 minutes, when off Gravesend, with the obstructions above mentioned, the next 23 miles was done in 1 hour 32 minutes, against the young flow tide; we were then off the Nore floating light, and making from 38 to 40 revolutions per minute; the next 8 5-6 miles was done in 35 minutes.

On returning a head wind sprung up, and which continued to increase, but of course the flow tide was now with us; the 8 5-6 miles back to the Nore floating light, was done in 28 minutes, and the next remaining 44 miles in 2 hours 7 minutes. Thus the average speed through the water was outward 15 5-6, and returning 20¼ (nearly) miles per hour. The velocity through the water, was at the five periods noted, 17¼, 15, 15¼, 18 9-10, and 20¼ miles per hour. The Thames rule for velocity is, I believe, to deduct one mile per hour when the tide is for, and add four miles per hour when the tide is against the boat, which brings out the velocity, through still water, over 19 miles per hour, omitting the first 21 miles for the reason before stated.

From Gravesend church to Blackwall, a distance of 21 miles, was said (and I have no reason to doubt

the correctness of the assertion,) to have been done in 59 minutes, but about this time the writer was specially engaged below, discussing with the gentlemanly engineers, Messrs. Field and Maudslay, some very fine turtle soup, and various other luxuries, which their liberality had supplied, to the gratification of a very select party of gentlemen invited to witness the performance? J. A. R.

Columbia Railroad.

Annual Report of the Superintendent of Motive Power for 1847.

The following report of William English, Esq., superintendent of motive power, will give an idea of the amount, increase, and cost, of the business done upon the Columbia railroad. This road, it will be recollected, is a State work, is 82 miles in length, from Philadelphia to Columbia, where its freight is delivered to, and received from, the State canals, and the Wrightsville, and York and Baltimore, and Susquehannah railroad. Its motive power is owned by the State, and worked by its agents, while the cars are owned, and the freighting is done, by individuals and firms: the State keeping the road and machinery in order, and collecting tolls for hauling the cars, and the owners of the cars collecting the freights.

We have heretofore seldom received the annual reports of the State agents in Pennsylvania, and cannot therefore compare the receipts and expenses of 1847 with former years, except 1846 given herewith; but we are led to believe that, comparatively speaking, the public works have recently been more economically managed than formerly. The tabular statement, showing the number, cost, performance, condition, etc, of the locomotives, is somewhat condensed, and differently arranged from that given in the report, yet it gives all the important facts in less space.

We have received, and shall give in our next, the report of the superintendent of the Portage road.

REPORT.

To the Board of Canal Commissioners of the Commonwealth of Pennsylvania:

GENTLEMEN: I have the honor to submit the following report and accompanying documents, showing the operations and condition of the motive power department of the Columbia and Philadelphia railway, from Jan. 20, to Dec. 1, 1847, during which time it has been under my charge, together with the receipts and expenses for the whole fiscal year, viz: from Dec. 1, 1846, to Dec. 1, 1847

The amount of business done upon this branch of the public improvements during the last year, largely exceeded the calculations made at its commencement. As a consequence of this, the expenditure also exceeded the estimates made for the service of the year; but, as the statements will show, not in proportion to the amount of business.

During the months of January and February, and the two weeks of March preceding the opening of canal navigation, the transportation exceeded, in nearly a threefold degree, what it had ever been for the same period. But being confined to flour, grain and the products of the farm generally—all paying a low rate of toll—and the cars returning empty—also at reduced rates—the profits of the road were not as large as the quantity of business would lead the ordinary observer to expect.

The winter months have been occupied heretofore, in repairing the locomotives, and putting them in complete order for business on the opening of canal navigation in the spring. During the last winter, however, this course was rendered impracticable, nearly the whole force being required to accommodate the trade passing over the road. This caused much additional expense, as trifling defects in the machinery, which could have been repaired at small cost, were permitted, from necessity, to increase in magnitude, until thorough and expensive repairing became indispensable.

The operations of the motive power department since it was placed under my charge, have went on with much regularity and dispatch. Very few complaints have been received of detentions to business, or negligence on the part of officers, engineers or others employed on the road, and those few, of such a character as to admit of a speedy remedy being applied, and their recurrence guarded against. It is believed that the transportation has been done to the satisfaction of the forwarding merchants, and those doing business on the road generally.

It is a source of sincere felicitation that, in transporting such a large number of passengers and vast amount of freight, so few accidents have occurred, either to individuals or property. Those which have happened, can nearly all be traced to the negligence or carelessness of the unfortunate sufferers, while the limited number affords the best evidence of the skill and carefulness of those having charge of the locomotives, and the agents of the cars.

At the date of the last report there were 39 locomotives on the road. Two of that number, the "Lancaster" and "Columbia," were sent, on the 12th of March last, in obedience to the instructions of the board, to the Allegheny Portage railroad. Two new engines, the "Chester" and "Lewistown," contracted for the previous year, were added to the stock—one in March and the other in the early part of April—still making the number of locomotives on the road 39. Of this number, 36 were in active operation during part of the season—the remaining 3 being a portion of those abandoned for several years past—and for a period of more than two months, the trade was so pressing as to require 6 of the locomotives to perform double service, 3 from each end making two trips per day.

There are now 37 locomotives in good running order. The other 2 are being re built, one of which is nearly finished, and the other will be completed during the winter. Thus for the first time in several years, the whole motive power of the road will be in readiness for the spring trade.

Within the year there have been 4 engines substantially re-built, and the 5th nearly finished. There have been 8 new engine trucks, 7 tank trucks, and 3 new water tanks constructed. Houses have been built over 12 engines, making the whole number now covered 25; 8 of the engines have had copper flue sheets inserted in the fire box, and 5 have chilled driving wheels, both of which improvements, though costing more at first, have proved to be valuable and economical. All the engines have now inside bearings on trucks and tanks, and nearly all have first quality Wilmington manufactured wheels. The improvement in fitting up the axles, giving inside bearings, has been fully and satisfactorily tested—no axle thus fitted up, having broken within the year.

The two new engines, ("Chester" and "Lewistown,") cost $7,000 each, and are of the same class as the "Atlas," for the performance of which, I beg leave to refer to the report of the superintendent for 1845. In capacity, they are fully equal to the "Atlas," and exceed that engine in speed and ease of running. I regret to state, however, that soon after they were put in operation, some defects were discovered in the iron from which their fire boxes were made, and also in some of the castings, which rendered their immediate repair necessary. These repairs were promptly made, and new castings furnished by the manufacturer without charge to the Commonwealth. But, notwithstanding they have been thoroughly repaired and are now in good condition, I have, from a sense of duty, estimated their present value at only $6,000 each—their probable durability forming the basis of the estimate.

The present value of the locomotives on the road, together with much other interesting information, will be found in statement No. 5. I refer with much pleasure to that statement, as a faithful exhibition of the present condition of the motive power and its performance during the year. The table was compiled from accurate data and personal observation, and may be relied upon as being correct in all its details.

Early in the year it was observed, that the boilers of the "south stationary" engine at the inclined plane were in an unsound and dangerous condition. They had been in use over 13 years, and the safety of the workmen at the plane, as well as the business requirements of the road, made their renewal indispensable. New boilers were, therefore, furnished, as were also new pumps, feed pipes, castings, etc. To improve the power of the engine, the boilers were increased in length 10 feet, and the engine house, to admit the improvement, had to be extended the same distance. This expense, amounting in all to nearly $2,000, was not anticipated in the estimates for the year, and would not have been incurred, but from the pressing necessity of the case. It is a valuable improvement however, and places the machinery at the plane in a condition adequate to the heaviest business that may be brought upon the road.

I have caused, during the year, some improvements to be made in the machinery of the Parksburg shops. A large and improved lathe, and a patent fan or blower, with all their appurtenances, have been added. The first of these will afford increased facilities to the machinists in the performance of their work, while the latter will effect a sensible reduction in the expenses of the blacksmith shop. I have also introduced a large hydrant with capacious heavy lead pipe, stop cocks,

etc., by which the men are enabled to fill the boiler of a locomotive in 10 minutes, instead of requiring three hours, as heretofore; thro' the tedious process of a small hose. The hydrant is also supplied with large hose, affording much greater security to the establishment in the event of fire. The cost of all these improvements is about $1,200.

On the opening of canal navigation last spring, there were 14 sets of section boat trucks in seemingly good order. Seven of of these were brought from the Portage road in 1843, one built at Columbia the same year, three bought from the Reliance line, and three built at Columbia in 1845.

Nearly all the damage on the road during the year was caused by the breaking down of the trucks under the section boats. Each year the builders have added to the weight of the boats, and during the last year, the average weight of loading was much increased, owing to the great pressure of business. The dead weight, therefore, has been constantly increasing, while the ability of the trucks to sustain it has, from decay and other causes, been gradually diminishing. Of the 11 sets with which the business of the spring was commenced, only three (those last built at Columbia) are in a condition for service next season. All those which came from the Portage railroad will require thorough repairing, and those bought from the Reliance line will require eight new trucks and three new cradles entire, besides other extensive repairs. One set has been entirely destroyed.

Experience has shown that good four inch axles, with at least three inch journals, are essential to the safe transportation of section boats over the road, and acting upon this conviction, I have, within the year, replaced 16 that had broken, with axles of that description.

If the transportation of section boats over the Columbia and Philadelphia railway is to be considered as a part of the settled policy of the State improvements, it will be necessary to commence the rebuilding and repairs of the trucks immediately, as it will require the entire winter to put the requisite number in proper condition to receive the boats on the opening of canal navigation next spring.—The materials, especially the timber, which it will take some time to cut and prepare, should be ordered at once; and I would earnestly recommend, as a matter of safety, as well as economy, that all the three inch axles be abandoned, and sold or used in the State shops, as may appear most advisable, and that axles of four inches diameter be substituted.

There are now, belonging to the trucks, 224 axles. Of these there are

Of 3 inches diameter	129
" 3½ "	79
" 4 "	16
Making	224

The cost of these repairs, including timber, iron, labor, etc., will amount to $5,653 22, and is included in the general estimate for motive power expenses for the ensuing year. For the details of the cost, I respectfully refer to the paper marked Appendix, No. 1, attached to this report.

The following shows the receipts and expenses of the trucks for the past year:

Amount received for the use of trucks as per reports of collectors	$9,606 12
Amount paid for repairs and maintaining trucks	6,048 70
Excess of receipt over expenditure	$3,557 42

That portion of the business of the Reading railroad, passing over the Schuylkill level from the bridge at Belmont, continues to require the constant services of the extra locomotive placed there last year.

The temporary repairs to the three locomotives on the level is done, as heretofore, at the manufacturing establishments in that vicinity. This course is pursued as a matter both of economy and convenience, as the time and expense of sending an engine to Parkesburg would exceed the cost of the repairs required. All other repairs to engines are done at the State shops.

In stating the expense of maintaining the motive power the past year, no item, it is believed, either paid or due, has been omitted. The desire has been to present to the board a faithful account of the condition and operations of that department, its cost and profits. The expenditure has been heavy, but not more so than the great increase of business, during the first 10 months demanded and justified. It is proper to remark, too, that much of the expense was incurred in anticipation of the usual, if not an increased business during the months of October and November; but the disastrous freshet, the first week in October, by which the canal was partly destroyed and the principal business of the road cut off for the remainder of the year, defeated those reasonable expectations—leaving but little remuneration for the expenses incurred.

But for that catastrophe the receipts would have been increased full $90,000, while the additional expense (everything, except fuel, oil and the pay of engineers and firemen being previously provided and paid for.) would not have been more than from eight to ten thousand dollars, leaving a profit of at least eighty thousand dollars, which would have been added to the earnings of the road.

It was confidently anticipated on the 1st of October, that the road would yield a profit, for the year, of full 10 per cent. on its cost of four million dollars. Under all the disadvantages alluded to, the clear profit has been nearly eight per ct.; a much larger amount than was ever before realized.

The experience of the past year has fully demonstrated the capacity of the road, for a much larger amount of trade than was ever anticipated being transported over it; and with a few new and improved locomotives, in lieu of some of the old and expensive machines now in use, such increased business could be done at a much reduced cost.

It is confidently expected that an extensive business will be brought upon the road on the opening of the canal navigation next spring; and in view of this, it is respectfully submitted to the board, whether arrangements should not be made at once for procuring at least two additional locomotives.

The following table will show the amount of business done, and the cost of motive power—including all payments made and bills due for the year 1847, and also for 1846:

Year.	No. of trips by locomotives	Number of cars hauled.	No. of passengers.	No. of tons of freight.	Cost of motive power.	Receipts for motive power.
'47	8,191	111,545	65,751	234,229	175,819 99	299,602 62
'46	6,828	83,826	58,248	139,530	157,846 23	250,757 90
In.	1,363	27,719	7,503	94,699	$17,973 76	$48,844 72

For the details of receipts and expenditures and for the condition, operations, etc., of the motive power department for the year ending Nov. 30, 1847, and the estimates for the year 1848, I respectfully refer the board to the annexed tabular statements:

Statement, No. 1, shows the account of the superintendent with the State treasurer.

Statement, No. 2, shows the receipts and expenses of motive power from Dec. 1, 1846, to Dec. 1, 1847.

Statement, No. 3, shows the detail of expenditure for motive power from Jan. 20, to Dec. 1, 1847, and the estimates for 1848.

Statement, No. 4, shows the value of the stock on the road, Dec. 1, 1847.

Statement, No. 5, shows the value, condition, location, performance, etc., of the locomotives, Dec. 1, 1847.

Statement, No. 6, shows the gross amount of receipts and expenses, including motive power and repairs, and the net profits from Dec. 1, 1846, to Dec. 1, 1847.

All which is respectfully submitted.

WM. ENGLISH,
Supt Mo. Power Phila. & Col. R. R.

Superintendent's Office,
Parkesburg, Dec. 1, '47.

STATEMENT, No. 1,
Showing the Account of the Superintendent with the State Treasurer.

Amount drawn from the treasurer of the canal commissioners from Jan. 20, to Dec. 1, 1847		$166,300 00
Amount paid for expenses of motive power, from Jan. 20, to Dec 1, 1847	$139,534 17	
Amount paid for bills due from Dec. 1, 1846, to Jan. 20, 1847	7,877 85	
Amount paid on debts due prior to Dec. 1, 1846	4,887 88	
Amount paid M. W. Baldwin for two new locomotives and tenders	14,000 00	166,299 90
Amount due commonwealth		10

STATEMENT, No. 2.
Showing the Receipts and Expenses of Motive Power, from Dec. 1, 1846, to Dec. 1, 1847.

Amount of motive power tolls, as per reports of collectors		$299,602 62
Amount paid by W. English from Jan. 20, to Dec. 1, 47.	139,534 17	
Amount paid by W. English on account of expenses accruing between Dec. 1, '46, and Jan., 1847	7,877 85	
Amount paid by E. F. Gay, from Dec. 1, 1846, to Jan. 12, 1847	13,929 10	
Amount due as per statement No. 3	14,478 87	
		175,819 99
Excess of receipts over expenses		123,872 63

NOTE.—The sum of fourteen thousand dollars, paid for two locomotives during the present year, is not included in the above expenses, as the cost of such machines, they being permanent property, cannot be justly charged to any one year.

STATEMENT, No. 3,

Showing the detail of expenses of motive power from Jan. 20, to Dec. 1, 1847.

Object of Expenditure.	Am't paid.	Am't due.	Total.	Estimate for 1848.
Parkesburg shops	$8,910 62	$882 01	$9,792 63	$11,000 00
Engineers of locomotives	13,643 57	811 00	14,454 57	14,000 00
Firemen	9,727 09	564 38	10,291 47	10,000 00
Schuylkill plane	10,916 31	836 87	11,753 18	10,000 00
" level	5,047 71	539 25	5,586 96	6,000 00
Columbia depot	4,940 84	438 95	5,379 79	5,500 00
Moving and inspecting wood	2,908 96	213 62	3,122 58	2,500 00
Watermen	2,047 30	211 15	2,258 45	2,300 00
Sawing and splitting wood	2,423 39	168 75	2,592 14	2,400 00
Superintendent and clerk	1,712 00	180 00	1,892 00	2,190 00
State agents	2,958 44	180 00	3,138 44	3,400 00
Horse power	5,287 89	458 92	5,746 81	6,000 00
Water companies for water	450 00	.....	450 00	800 00
Oil	5,383 90	.....	5,383 90	5,000 00
Wood	27,866 85	2,649 60	30,516 45	31,000 00
Materials for repair of engines	7,219 85	1,001 22	8,221 07	8,0 0 00
Stationery and printing	65 69	75 75	141 44	200 00
Castings	1,832 25	142 43	1,974 68	1,500 00
Repairing engines at manufacturing establishments	964 27	76 58	1,040 85	1,000 00
Coal	17,122 28	5,023 49	22,145 77	18,000 00
Rope for Schuylkill plane	1,551 08	.....	1,554 08	4,500 00
Rents	158 00	.....	158 00	400 00
Water stations	92 35	.....	92 35	540 00
Miscellaneous	276 73	.....	276 73	200 00
Trucks, repairing and maintaining	6,023 80	21 90	6,048 70	8,000 00
	139,534 17	14,478 87	154,013 04	154,430 00

STATEMENT, No 4.

Showing the value of stock on the road, December 1, 1847.

Wood	$2,681 50	Estimated value of stock Dec. 1, 1846.	$206,644 00
Mineral coal	8,000 00	Less two locomotives sent to Portage railroad	7,000 00
Materials at shops	19,856 00		
Seventeen cars	3,060 00		
Present value of locomotives	188,500 50		199,644 00
	222,100 50	Increased value of stock, 1847.	22,456 50

NOTE.—In the above estimate of stock, the trucks, stationary engines, machinery, and tools in the Parkesburg shops, and other stationary property, are not included.

STATEMENT, No. 5.

Showing the condition of the locomotives, with their value and performance in 1847.

	Names of Locomotives.	Manufactured	By	Tons w'ght.	Tons power	Driving axles.	Original cost.	Last year valuation.	Present value.	Miles ran Dec. 1, 46 to Nov. 30, 47.	Condition, Nov. 30, 1847.
1	Bald Eagle	Mar. '37	Eastwick & Co.	10½	120	str'ght.	$7,000	$4,600	$5,000	15,132	best order.
2	Telegraph	April, '37	"	10½	120	"	7,000	5,000	5,000	27,846	"
3	Enterprise	May, '37	"	10	108	"	7,000	4,600	4,600	13,728	good order.
4	Pennsylvania	Jan., '35	M. W. Baldwin	10	96	crank,	6,317	4,300	4,400	26,052	"
5	Virginia	Feb., '37	"	10	96	"	7,000	4,400	4,400	21,996	"
6	Brandywine	Oct., '35	"	10	96	str'ght,	6,400	4,400	4,400	21,996	"
7	Juniata	Sept. '35	"	10	96	"	6,400	4,400	4,400	18,018	"
8	Philadelphia	Nov. '34	"	10	96	crank,	6,317	4,600	4,600	17,862	"
9	Schuylkill	April '35	"	9½	96	"	6,317	4,400	4,400	19,500	"
10	West Chester	Jan. '37	"	9½	96	"	7,000	4,400	4,200	3,354	"
11	Susquehanna	Feb. '35	"	9½	96	"	6,317	2,000	3,500	.....	being rebuilt.
12	Lancaster	June, '34	"	10	96	"	5,850	4,000	.....	546	sent Mar. 11.
13	Columbia	Sept., '41	Dotterer & Co.	8½	72	str'ght,	7,500	3,000	.....	.....	"
14	Cameron, S.	Mar. '39	Wm. Norris	10½	132	"	7,500	5,000	5,000	14,352	good order.
15	Penn, Wm.	Oct. '35	"	9½	100	"	6,000	4,400	4,400	13,728	"
16	Delaware	May, '41	Sellers & Sons	10	96	"	6,500	4,300	4,300	13,572	"
17	Atlas	May, '45	M. W. Baldwin	17	228	"	6,500	6,000	6,000	11,232	"
18	Chester	April '47	"	17	228	"	7,000	.....	6,000	11,154	"
19	Lewistown	Mar. '47	"	17	228	"	7,000	.....	6,000	10,296	"
20	Clarke, J.	April '39	"	13½	132	crank,	7,500	5,000	5,000	20,748	"
21	Conestoga	Feb. '47	"	13½	132	"	7,500	3,200	5,000	7,410	"
22	Downingt'wn	Aug. '47	"	13½	132	"	7,500	5,000	5,000	17,706	"
23	Gay, E. F.	Mar. '47	"	13½	132	"	7,500	5,000	5,000	19,500	"
24	Indiana	April '47	"	13½	132	"	7,500	5,000	5,000	21,216	"
25	Hubley, E. B.	April '39	"	13½	132	"	7,500	3,000	3,500	.....	being rebuilt.
26	Mississippi	May '37	"	13½	132	"	7,500	4,700	4,700	20,904	good order.
27	Montgomery	May '37	"	13½	132	"	7,500	5,000	5,000	18,720	"
28	Octorara	April '37	"	13½	132	"	7,500	4,600	5,000	12,870	best order.
29	Parkesburg	Mar. '37	"	13½	132	"	7,500	5,000	5,000	13,728	"
30	Pequea	April '37	"	13½	132	"	7,500	3,000	5,000	.....	"
31	Wisconsin	May '37	"	13½	132	"	7,500	4,300	4,800	19,422	good order.
32	Buchanan, J.	Mar. '39	H. H. Campbell	13	132	str'ght,	7,500	5,000	5,000	19,578	"
33	Jackson, A.	"	"	13	132	"	7,500	5,000	5,000	18,564	best order.
34	Porter, J. B.	"	"	13	132	"	7,500	5,000	4,900	21,060	good order.
35	Keys, H.	May '40	Pennell & Co.	12½	132	"	7,500	5,000	5,000	20,514	best order.
36	Farmer	Oct. '36	Wm. Norris	10½	132	"	6,300	5,000	5,000	9,594	good order.
37	Snyder, S	Mar. '39	"	10½	132	"	7,500	5,000	5,000	18,018	"
38	Keim, G. M.	April '40	Dotterer & Co.	12	132	"	7,500	5,000	5,000	17,238	"
39	Muhlenberg	Nov. '39	"	12	132	"	7,500	5,000	5,000	17,160	"
40	Old Berks	July '39	"	12	132	"	11,000	5,000	5,000	20,982	"
41	Westm'rel'nd	Nov. '41	"	12½	132	"	7,500	5,000	4,000	20,748	"
							294,218	176,600	188,500	616,044	

STATEMENT, No. 6.

Showing the receipts and expenses on the Columbia and Philadelphia railway, from Dec. 1, 1846, to Dec. 1, 1847.

RECEIPTS.

Amount of railway tolls received, as per report of collectors		$268,047 58
Amount of motive power tolls received, as per report of collectors	299,602 62	
		567,650 20

EXPENSES.

For repairs of road from Dec. 1, 1846, to Dec. 1, 1847, as per statement, No. 8	70,195 45	
For maintaining motive power from Dec. 1, 1846, to Dec. 1, '47, as per statement, No. 2	175,819 99	
		246,015 44
		321,634 76
Deduct salaries of collectors, weigh-masters, etc		9,225 56
Net profits		312,409 20

NOTE.—The sum of $1,904 43, received for old materials sold, during the past year, has been paid to the collectors and accounted for at the office of the auditor general.

APPENDIX, No. 1.

Estimate for the repairs of section boat trucks, and for furnishing 129 axles four inches in diameter.

16,500 ft. oak timber a $20 per 1000 ft.				$330 00
11,000 lbs. hammered iron at 4½ cts. per lb.				495 00
4,160 " cast	"	3	"	124 80
36,120 " axles	"	5 (129 axles).		1,806 00
8,514 " cast	"	3 (boxes etc.).		255 42
10,000 " " (20 new wheels)	3 (500 lb. each).			300 00
Carpenter work				1,000 00
Fitting up 129 pair wheels and axles at $5.				645 00
Blacksmith work on trucks				500 00
Painting				200 00
Total expense				5,656 22

(To be continued.)

Railways and Political Reforms.

The editor of the Railway Record says, "We extract the following passages from a series of interesting papers, now in course of publication in the *Manchester Examiner*, under the title of 'The Autobiography of a Working Man:'"

Nothing occurred on my journey from London to Liverpool which I need remark upon, except that at Manchester I saw a railway, locomotive engines, and railway trains, for the first time. Upon the railway, not then out of the second year of its age, I proceeded to Liverpool. The opening of that railway is an epoch in the history of the world. In memory, I see my first whirl upon it standing so prominently out among other recollections that it seems like an epoch of my life. All sights which I had seen in London or elsewhere — the beautiful, the grand, the wonderful—shrunk into comparative nothingness when, after reaching Liverpool, I went into the country a week, in the neighborhood of Prescot, and saw (each day I sought to see it, each hour of the day I could have stood to see it again,) the white steam shooting through the landscape of trees, meadows, and villages, and the long train loaded with merchandise, men and women, and human enterprise, rolling along under the steam. I had seen no sight like that. I have seen nothing to excel it since. In beauty and grandeur the world has nothing beyond it. In wonder alone the electric telegraph outstrips the railway; but they belong to the one family of wonders. I used to stand and look at it, and dream as I stood;

and when I ventured to relate any of those dreams, people used to say that I was very dreamy indeed. Related now, that 15 years have passed, those thoughts would seem very sober realities.

The reform bill had just then passed into law. Some people saw no good in the reform bill, but much evil; some saw no good in the railways, but much evil; others saw no evil in either, yet not much good; the greater number saw boundless good in both. But many of those who saw boundless good in the reform bill, turned in the second, third, fourth, fifth, sixth, seventh, eighth, and ninth years of its existence, and did all they could by fair means and unfair means, by their own votes, and by their influence over the votes of others, to oppose the principles of the reform bill, and the faithful adherents of it; they promoted the political principles opposed to it, and supported its opponents because the boundless good which they expected to come out of it did not come in the second, third, fourth, fifth, sixth, seventh, eighth, or ninth years of its existence. The same order of minds who saw boundless good from the establishment of railways, and who did not see it come in the shape and within the time that they had expected it to come, would have put their backs to the locomotive engine, and would have prevented another train from starting, had they been strong enough. But the locomotive was too strong for them, and they wisely stood aside and allowed it to go on. The principles of political advancement have also become too strong for those who set their backs to them and pushed rearward; and wisely they stand aside, or, in their weakness, only hang on behind to pull back. As well may they pull behind to stop the railway engine, because the change it has caused upon old roads is disadvantageous to some of them, and because it has not realized for others all which they expected it at once to do, as to attempt to turn back the political machinery of national advancement.

To those who advocated the reform of 1832, it might be almost a triumph to have lived to see that it has done no harm. The opposition to it was not founded upon the probability of it doing no good, but on the certainty of its doing positive and irreparable mischief. He must be a bold reasoner, or a man too weak to reason, who says it has done no good. He must be a bolder or a weaker man, or one in whom both qualities are compounded, who says that the reform act has done evil. The first principle of magnitude—the greatest of all indeed, solved by the establishment of the Manchester and Liverpool railway, was this, that the innovation upon old customs was safe. The railways have proved that and much more. The greatest principle established by our experience of the reform act, which gave Manchester two members for the first time, is that innovation upon old customs of admitting a large number of the population to share in the privileges of the constitution is safe. The reform act has proved that and much more. * * The time when I first saw the railway uniting Liverpool and Manchester—spanning the bog where human foot could not tread, stands, as I have said, in memory, like an epoch of my life. I looked upon that most poetical and most practical of the grand achievements of human intellect, until people thought I stood and slept; and when they heard the dream they said it was very dreamy indeed. I should fear to tell the dreams which I have now beside the electric telegraph, and on the railways, and within the regions of the god-like inventors and makers of machinery. There is a time coming when realities shall go beyond any dreams that have yet been told of those things. Nation exchanging with nation their products freely; thoughts exchanging themselves for thoughts, and never taking note of the geographical space they have to pass over, except to give the battery a little more of the electric spirit, if the distance which the thought has to go be many hundreds of miles; man holding free fellowship with man without taking note of the social distance which used to separate them, except, perhaps, the lord (landed lord or cotton lord) shall use a little more of the moral electricity when conveying a thought to a working man at the opposite end of the social pole, who used to be very far distant; he may put on a little more of the moral electricity which shall then be discovered to carry the instantaneous message of one feeling, one interest, one object, one hope of success from the lordly end to the working man's end of the social world. Universal enfranchisement, railways, electric telegraphs, public schools, (the greatest of the moral levers for elevating mankind, named last—because last to be established, which should have been first,) these are some of the elements of a moral faith—a faith believing in the universal brotherhood of mankind, not in a world to come, but in a time to come in this present world, which I daily hold, and never doubt upon; which I believe will as certainly be realized as I believe that *good*, and not *evil*, was the object of all creation, and is the end of all existence.

New York and Albany Railroad, Location from Fishkill to Albany.

Continued from page 149.

ENGINES FOR FREIGHT TRAINS.

These generally travel at the rate of about 12 miles per hour. At this speed the resistance from air is not of much moment, and is not usually taken into account; this calculation will not be made so close, in regard to power and resistance, as to render it necessary to do so. The adhesion will be taken at 1-8th the insistent weight, which is about 1-3 less than will be available in a good state of the rails. As the speed is slow, two pairs of driving wheels are necessary, and it will be easy to give the engine power to work up to this adhesion. Engines for freight trains have been made for six and eight driving wheels, but for general use those with two pairs, or four driving wheels, are preferred.

The data for the calculation of their performance will be as follows:

Weight of engine, 20 tons.

Weight on 4 drawing wheels, 14 tons, or 31,360 pounds.

Adhesion 1 8th the insistent weight on drivers. Tender, 14 tons.

Traction per ton of gross load, 8½ pounds.

Then $\frac{31360}{8}=3920$ pounds, the tractile power of the engine.

$\frac{3920}{8\frac{1}{2}}-14=447{\cdot}17$ tons, the gross load on a level, exclusive of engine and tender.

The load that can be taken up an ascent of 10 feet per mile $=\frac{447{\cdot}17-(10+7)}{1{\cdot}5}=286\,78$ tons.

Ascent of 17 ft. per mile $=\frac{447{\cdot}17-(17+11\,9)}{1{\cdot}85}$ $=226\,09$ tons.

The freight a car will carry should be 6-10ths of the car and freight. The amount of freight, therefore, comprised in the above calculated loads, will be:

On a level - $447\,17\times 6=268\,30$ tons.
Ascent 10 ft. per m. $286.78\times 6=172\,06$ "
Ascent 17 ft. per m. $226\,09\times 6=135{\cdot}65$ "

The cost of running the train (exclusive of depot expenses) is estimated for engine men, (including driver, firemen, conductor, and brakemen,) fuel, oil, and maintenance of way, and engine, at 50 cents per mile run, or for 144 miles $72; for cars, including maintenance of the same, and their share of maintenance of way, 35 cents per ton of freight on the whole trip of 144 miles.

The cost of transportation will be for an ascent of 10 feet per mile—

Engine, etc., as above, -	$72 00
172 tons freight at 35 cts.,	60 20
	——$132 20

For an ascent of 17 feet per mile—

Engine, etc., as above, -	$72 00
135 tons freight at 35 cts.,	47 25
	——$119 25

The cost per ton transported, hence, is—

On the river line $\frac{132\,20}{172}=76\,86$ cents.

On the interior line $\frac{119\,25}{135}=88\,33$ cents.

Difference in favor of the river line, say 12 cents per ton.

In order to present a more comprehensive view of the comparative ultimate economy of these two routes, it is necessary to ascertain the amount of business that will be done, and that will be influenced by this question: All the through business, and a large portion of the way business above Fishkill will be affected by it. It is, obviously, proper that any estimate that is made should look forward to a period some years subsequent to the opening of the road throughout. Not less than five years (and ten would be nearer the mark) should be taken to allow a fair development of the business of the road, which will go on thereafter, increasing with the growth of the country. Keeping this in view, not less than 500,000 passengers, and 100,000 tons of freight, may be taken as the amount of business that will be affected annually by this question, and according to the results arrived at above, this would be done at a reduction of cost on the river line, as compared with the interior, as follows:

500,000 passengers at 8 cents	$40,000
100,000 tons freight at 12 cents	12,000
Total	52,000

These amounts of traffic must be regarded as moderate, in view of the prospects of the road.

It is estimated that the river line would be more expensive to maintain, on account of exposure to the ice, and the wash of the river.

This, however, would be counterbalanced to some extent by the slides and settlement of the heavy clay cuttings and embankments that must be encountered on the interior route. The river route, especially that portion exposed to the action of the river, is for the most part of hard and rocky materials, well adapted to resist the influences referred to. So far as fuel or other material for the use of the road may be required from the river market, the river route will be most advantageous. In view of the relative exposure that will cause extra expense in maintenance and the facilities for conducting the business of the road on the two routes, it is considered that the river route will be in the aggregate the most expensive, probably to the amount of ten thousand dollars per annum. This is a proper item to be deducted from the superior economy above shown in favor of the river route in regard to running expenses, and will reduce the saving to forty-two thousand dollars per annum.

If, therefore, the amount of annual business before assumed, be well founded, the river route will be equal as an investment, at the additional outlay in first cost of $500,000.

The estimated excess in cost has been shown to be $538,663. This difference in cost compared with the economy in conducting the business of transportation, leaves the question of route to be settled mainly by the relative prospects of business on the two. In examining this question, it is proposed to confine the inquiry to those items that are or may be considered peculiar to each. The general or through trade is supposed to have been provided for in the calculations before presented; but it is considered proper to remark that it is believed the amount assumed is much below what it will be within ten years of the time of the completion of the road, and was taken, rather than place this question on a more remote period of its trade. Both routes reach Poughkeepsie on lines that leave no important considerations in favor of one over the other.

After leaving this place, the interior route intersects no village or city on the river, until it reaches Hudson, which it passes about one mile from the river. It passes through or near the villages on the old post road, ranging from one to near four miles from the river. From Hudson the line inclines easterly from the river, passing several factories, and running about one and a half miles westerly from the village of Kinderhook, where it is about three miles from the river; thence inclining towards the river, the line traverses about six miles of cultivated country, and about ten miles very little cultivated, when it comes out into the valley of the river, about three miles from Albany. After passing Kinderhook, there is no village on the line, or nearer than those on the river, which, on the east side, are small between Hudson and Albany.

Between Poughkeepsie and Hudson, this line traverses a fine agricultural district, that extends from the east bank of the Hudson river to ten, and in some cases, fifteen miles in width, where the country becomes broken and hilly, and much less valuable for agriculture. There is nothing worthy of note as manufactures, or mechanical facilities for manufactures in this district. The trading towns are small, dividing the commerce of the country with the small villages on the river where the heavy business is done. Between Hudson and Kinderhook village, there are several large manufactories, at Columbiaville, print works, Staatsville and Stuyvesant Falls. If concentrated, they would form a very respectable manufacturing town. Some of them are so situated that they would be as well accommodated by one line as the other, but generally the inland route would best accommodate them. From Hudson to about six miles north of the Kinderhook village, the line traverses a fine agricultural district.

The interior route for the most part runs from two to four, and sometimes (by the travelled roads) five miles from the river. This circumstance will give it the control of the passenger business of the district through which it passes, at higher rates of fare than could be obtained from the same, if they were to go to the line on the river, where a choice could be made between the railroad and steamboat conveyance. The saving in cartage over the ordinary roads, would be an inducement to send a larger amount of freight on the railroad, than would be sent if the property were transported to the river, where navigation would come in direct competition with the railroad.

These remarks are applicable only during the season of navigation; when the river is closed by ice, the railroad will have no competitor.

The river route following the shore, and passing directly, or near by the steamboat landings, must come in direct competition with the river navigation, for all its business during the season when the river is not obstructed by ice. If it should not be able to sustain this competition successfully, then it is clear the interior route would be the best, and it would be advisable to carry it still farther from the river than it has been run.

If it be admitted the railroad will successfully compete with steamboats, still it would be at some reduction in profit, and a larger amount of trade must be secured on the river route to produce the same amount of income.

The villages on the east shore of the river, betweeen Poughkeepsie and Hudson, and also between Hudson and Albany, are small. On the opposite side of the river the villages are much more important. Of the latter, Kingston and Rondout are situated at the termination of the Delaware and Hudson canal, and more shipping is employed at Rondout than at any other place between New York and Albany.

Saugerties is a large and flourishing manufacturing village. Catskill is among the most important towns on the river. Athens is a considerable village opposite Hudson. Coxackie is the most important village between Hudson and Albany, and New Baltimore and Cœymans, larger than any village on the east side between the same places, except Stuyvesant landing. By an inspection of the map of the state, it will be seen that the trade and travelling of a larger extent of country concentrates and passes through the villages on the west side than through those on the east side, if we except Poughkeepsie and Hudson.

This arises from the greater facility of diversion on the east than there is on the west side of the river.

If the road were constructed on the interior route, it would be less able to compete for the travelling from the river villages than for the travelling of the interior villages, if the river route should be adopted; for the passengers from the villages on the river would have the boats at hand, when to take the railroad on the interior route, they must travel from one to five miles on ordinary roads to reach it; whereas, travellers from the interior, if the road was on the river route, must do no more to reach the railroad than would be necessary to reach the boats. Travellers from the west side of the river could not be expected to cross and take conveyance to the interior route to any great extent. The road constructed on the interior route would, no doubt, cut off the great mass of travelling on and east of it, that now goes to the river, and it would lose the greatest part of that on the immediate bank of the river, more particularly of the river villages; and it would lose nearly all the travelling from the west side.

If the road should be constructed on the river route, it would be able to compete at even terms with the boats on the river, for the travelling that would come from the interior line; for, as before observed, they must come to the railroad, in order to take the boats, and then the railroad and the boats would be offered for their choice. For all the business on the east side of the river, the railroad would then have a fair competition with the boats. To obtain business from the west side, the railroad must offer such facilities as will induce passengers to cross by a ferry in order to enjoy them. Advancing north from Poughkeepsie, the river narrows, and ferries may be easily and cheaply established. They already exist to a considerable extent, and it is confidently believed the advantages the railroad would offer immediately opposite, would lead to the most convenient and cheap accommodation of this sort. Suppose a number of passengers on the west side of the river at Catskill, designing to take the day boat from Albany—the cars are to arrive on the opposite side, already an hour, to an hour and a half in advance, and will reach New York four to five hours in advance of the boat; how many of them would cross a ferry requiring five minutes, and take the cars in preference to waiting for the boat? Certainly every one of them that required a

few hours to transact business in New York, and return to Catskill the same evening, and probably the greater part of those who did not design to return the same day. To reverse the direction of travelling, the passenger at New York desires to visit Catskill, and spend a few hours to transact business, or for amusement, and return to New York in the evening, would take the cars of necessity, as the boat would not furnish the means of accomplishing his object. And if he leave New York in the evening, the cars would enable him to reach Catskill about nine o'clock, while the boat would arrive at the uncomfortable hour of one or two o'clock the next morning. This is a practical affair, and may readily be comprehended by any man at all acquainted with the habits of the travelling community, and there can be no doubt a very large share of travellers from Catskill would prefer crossing a short ferry, and thereby avail themselves of the superior facilities the railroad would furnish. What has been said of passengers to and from Catskill, will apply to every town on the west side of the river above Poughkeepsie, and leaves no doubt that the way business from the west side of the river would be very large, if the road was constructed on the river route.

It is believed the freight traffic during the season of navigation would be greater on the interior than on the river route. For the season of suspended navigation, the river route would command the largest amount of freight, from the increased facility of approach from the west side of the river.

The increase of traffic from the establishment of manufactures by steam power, would be much greater on the river route than on the interior route. Many persons have little faith in the use of steam for such purposes, and will not regard this as of the least importance; but in view of the fact that steam power is now used in the eastern states to drive two hundred and forty thousand cotton spindles, besides other machinery, it cannot be doubted the highly favorable advantages enjoyed, and to be enjoyed, in the Hudson river valley, will soon induce the establishment of such manufactures.

The coal that finds its way to the shores of Rhode Island and Massachusetts, to drive steam mills, comes directly from the mines into the valley of the Hudson, and may be landed from the canal boats, at the doors of similar establishments on its banks.

The valley of the Hudson receives the traffic of a vast extent of country, which naturally seeks this avenue of communication The business of the railroad is to improve this avenue, by affording a more expeditious transit. That the road during the season of suspended navigation will control the business of freight and passengers, as before observed, cannot be questioned. If it cannot compete successfully for passengers during the season of navigation, then, as before stated, it will be best to adopt the interior route, where a considerable share of business might be obtained, in consequence of its being so far removed from the competition of the river. It therefore appears necessary to a proper understanding of the comparative merits of the two routes, that the question as to the capacity of the railroad, to compete with boats for passengers, should be examined. The great business of the railroad in summer must be in passengers, and it is proposed to examine the prospect of its ability to do this business.

If it cannot successfully compete with the boats for the way traffic, it certainly cannot for the through traffic, and in this view the question is essential to the success of the enterprise on any route. It will be considered that the boats on an average make the trip in ten hours; they sometimes, under favorable circumstances, perform it in seven and a half to eight hours, but the average of fast boats, including landings, do not much, if any exceed the average above stated. The cars on the railroad will easily make the trip in five hours. It may be urged that the boats will increase their speed, to which it is a sufficient reply, that the railroad will possess the means of maintaining a corresponding increase.

The boats, to increase their speed, must be able to resist a dense medium, (water,) while the increased resistance to the cars would be air. The relative power to pass through these elements may be judged of by the speed a man moving in water up to his neck would make, as compared with the speed he would make by exerting his power, to run through the air. Persons who speak of the increase that will be made in the speed of steamboats, have usually very little idea of the nature of the resistance they must meet, and it may be regarded as a safe basis that the cars can be moved on the railroad at about double the velocity of boats on the river.*

It has been urged by the opponents of this enterprise, that though the cars would travel faster than the boats, the latter would be able to transport at so much lower fare as to command the great bulk of the passengers.

There is no doubt that railroad fare is generally higher than that of steamboats on the Hudson. This may also be said of steamboats on other waters, as compared with the Hudson river boats. The economy of transporting passengers depends materially on the number to be carried, whether by cars or boats. Were it not that it would too much extend this paper, it might be shown that passengers could be transported at less expense on the railroad than on boats, considering the numbers that this route will furnish. But it is sufficient to show the practical working of railroads, and compare the result with what may be depended on for this road. With this view the following tabular statement has been prepared, showing at a glance, the results of business in 1846, on nine different roads in Massachusetts, seven of which terminate in Boston.

Name of road.	PASSENGERS. Miles run by trains.	Passengers per mile per train.	Receipts per mile per train	Gross Receipts.	FREIGHT. Miles run by trains.	Tons per mile per train.	Receipts per mile per train	Gross receipts.	Current expenses. Freight and passengers. Per mile.	Total.	Velocity per hour in miles—stops included. Passengers.	Freight.	Cost of road per mile.	Divid'd per cent.	Length of road in miles. Double track.	Single track.	Total.	Miscellaneous rec'ts.
Boston and Lowell	134,633	81	$1 38	$185,234	52,972	160	$3 65	$193,836	$1 31	$212,223	22	12	$70,279	8	22.73	1·86	27·61	$5,031
" Providence	140,878	62	1 65	230,486	51,786	49	2 14	110,882	86	169,679	25	12	49,806	8	19·25	30·95	43·20	19,497
" Worcester	195,692	65	1 42	279,792	93,008	130	2 79	260,165	96	283,876	22	9	65,710	8	14·52	8·45	53·07	14,754
" Eastern	201,626	62	1 53	310,061	33,680	32	1 25	42,270	69	162,804	21	15	53,904	8	16·	25·20	41·20	15,178
* " Maine	204,401	46	1 09	223,191	60,738		1 66	119,538	68	179,734	25	8	31,812	64		82·57	82·57	6,405
† " Fitchburg	140,424	44	0 92	198,737	48,173	70	3 15	151,805	63	117,447	20	10	36,959	10	5·11	46·61	51·72	6,101
" Plymouth, C.C.	63,073	55	1 61	101,865	22,640	13	90	20,403	67	57,230	20	12½	57,758	·5		37·	37·	3,449
§ Nashua and Lowell	28,515	172	2 07	59,092	18,615	192	3 41	63,613	1 49	70,279	22	12	34,940	$11	13·12	1·19	14 31	4,789
‖ Western railroad	215,369	99	1 81	389,961	313,259	85	1 49	469,364	78	412,630	22½	10	52,811	6	6·45	148·55	155·	29,891
Averages		76·2	1 50	1908,311		91·37	2 27	1,431,876	88				48,031	7·80				

* This road leases and runs about 14 miles of road to Portsmouth, for which they own the furniture.
† Total tons carried, 61,599—not reduced to distance carried.
‡ Net earnings not divided, equal to near 5 per cent.
§ Net earnings not divided, equal to 11 per cent. There appears to have been unusual expenses—repairs of road were $1,742 per mile.
‖ For 11 months' business. Net earnings for paying dividend and interest, 5·66, equal to 6·13 per cent. per annum.

The above statement presents much interesting detail, but it is only intended particularly to remark on those features that bear on the passenger traffic. They do a mixed business of freight and passengers: the latter averaging about sixty per cent., and the former about forty per cent. of the whole, from which it appears the passenger traffic is the most important in the aggregate. The expense of running passenger trains is not kept separate from freight trains, but it is known the latter are considerably more expensive

* The greatest speed attained by steamboats is believed to be that made by the Oregon and Vanderbilt last season on a race or trial of speed, from New York to Sing-Sing and back, which was about 23 miles per hour; while many instances have occurred of a speed of 60 miles per hour on railroads, or about three times that of the fastest boats, under the most favorable circumstances.

per mile run. The Eastern and Plymouth roads have the smallest freight traffic, and it is seen their running expenses are twenty cents per mile less than the average of the table.

The average cost of the above railroad is not materially different from what will be the cost of the Hudson river road, with a similar amount of double track and furniture. The total amount of receipts per mile of train run for passengers averages $1·497, say 150 cts. The average number of passengers is seventy-six. With a traffic made up of this and forty per cent. of freight, the average dividends were seven and eight tenths per cent. in 1846.

The reports are not yet officially made for 1847, but it is known the dividends have exceeded an average of eight per cent. Considering the great extent of country that concentrates its traffic on the Hudson, and the favorable grades, or planes, this road offers for the transportation of freight, it may safely be assumed that it will derive as much profit from freight, in proportion to its length, as the average of the railroads in the above table; and if it can do a passenger business equal to the average that appears above, then it is fair to conclude it will produce equally as great an income as they do, or a dividend of say eight per cent. on its cost.

In order to do this, it must receive an average of one hundred and fifty cents per mile run by passenger trains, and run as many trains, at similar expense, for running that is incurred by the average of the above railroads. The planes being much more favorable on the Hudson river railroad than the average of those in the table, it may be run at considerably higher speed without increasing the expense. A charge of the average rate of one cent per mile per passenger, would require the average number of one hundred and fifty passengers, to give this road the same success as those in the table. It therefore remains to ascertain if this average number of one hundred and fifty passengers per train can be obtained.

In general, it may be remarked that the Hudson river railroad will occupy the greatest thoroughfare for travelling on this continent, and forty trains per day, of the size above required, would not suffice to transport the average number of passengers during the season of navigation. It has a great natural increase that may be expected to go on for many years to come. Increased facilities will still further augment this natural increase, and it may confidently be expected that, within five years from the time the railroad is in operation its whole length, it will, beyond doubt, require from seventy to eighty such trains per day. But fifteen such trains per day would afford the proposed support to the railroad. This would leave more business for the boats at the end of the five years, as above, than they now have. Is it practicable for the railroad, at a fare of one cent per mile, to secure this amount of business? This is the problem to be solved.

Those travellers who, from a love of expedition, or have an object to economise time, would, no doubt, give preference to the railroad, and this embraces a large class of passengers. But this will appear more clearly by following the practical working of the road.

FIRST.—IN REGARD TO THE MORNING TRAINS.

The boat and the cars are supposed to start at the same hour in the morning, say seven o'clock. The cars will reach Albany at 12 M. The traveller having business requiring several hours to transact at Albany, and desiring to return to New York the same evening, would certainly take the cars, as his business would be transacted, and himself on his way back by the P.M. train about the time the boat would have reached Albany. This will apply to travellers under similar circumstances, to intermediate towns. It will be kept in mind that the boats do not furnish facilities sufficient for travelling to and from Poughkeepsie the same day. A traveller desires to visit the springs; by the cars he will reach Saratoga in good time for dinner, and he will have dined, and be enjoying the benefits of this celebrated watering place, before the boats will have reached Albany. He may dine at Saratoga the next day, return by the evening train to New York, and be at home by ten o'clock, having spent over a day at the springs, lost no regular rest, with an absence of about thirty-eight hours only from New York. Again, the travellers are going west. (Here it is presumed the roads west of Albany will be put in a condition to realize the progress of railroads.) To a considerable extent these travel by the day line, and would find their taste or convenience very much promoted by the railroad; but the largest portion of the western travellers take the night boat to save time, though they do not like the rest they get on the boats. Some persons, from habit or peculiar temperament, rest very well on steamboats, but it is notorious that the great mass of travellers who take the night boat do so merely to save time, and by so doing, make a sacrifice of comfort, which they would be glad to avoid. By taking the morning cars they would reach their destination within a few hours of the time they would have done by taking the boat the evening before. Those for Utica, Syracuse, Auburn, and even Rochester, would be at their destination the evening of the same day.

Travellers from Albany would reach New York by the six o'clock morning trains at eleven o'clock A.M., and have nearly all the business hours of the day, which would be concluded before the arrival of the boat, and for transactions not requiring more time would be able to take the evening train, and reach Albany by ten o'clock in the evening of the same day. Way passengers would secure the same advantages. The cars would be much more exact as to time, and would be first offered, as the boat must rapidly fall behind; and it may be regarded as certain, at the fare proposed, that very few would have the philosophy to wait for a chance on the boat. *Instead of its being a question whether the cars could compete with the boats, it is hardly possible the day boats could compete with the cars, especially for first class passengers. The way traffic must inevitably be swept off before their arrival at the way landings. The facilities that will be offered by the cars will not only take the greatest share of the present day travel, but must greatly draw from the night travel.*

SECOND.—IN REGARD TO THE EVENING TRAINS.

Business is generally over, and passengers may be ready to leave New York at five P.M. The way boats all leave at or before this hour. The cars will then reach Albany by ten o'clock in the evening, and all travellers who do not like a lodging on a steamboat, by taking the cars, will be able to lodge at Albany, and may take the cars west from Albany at the same hour the next morning, with those who travelled all night in the boats, provided fogs or low water had not prevented the boats from reaching Albany in time for the morning train, in which case the railroad passengers would proceed without them. If expedition be important to the traveller, he would proceed west from Albany at 11 o'clock the same evening he left New York, take an early breakfast at Syracuse, and dine at Buffalo the next day. For the travellers to way stations on the river, especially at or above Poughkeepsie, the hour of reaching their destination by the cars would be so much more desirable than by the boats as to decide the question, with the great mass in favor of the cars. The evening train from Albany will take such passengers as prefer to lodge at home, or at a hotel, and be prepared, by quiet and refreshing sleep, for the next day's business, to a half waking and disturbed rest on a steamboat, disqualifying them for a vigorous attention to the duties of the following day. The evening train will take up the way passengers in advance of the boat, and at a more desirable hour for the greater part.

The cars will run more frequently, and thus better accommodate the travelling public than the boats. All travelling between intermediate places on the route will be far better accommodated by the cars than it can be by the boats.

Thus far the subject has been discussed with reference to first class passengers, to whom the saving in time secured by the certainty and superior speed of the cars, the superior convenience and comfort of intercourse, as well as the fondness for rapid travelling, would be a sufficient inducement to pay the low fare proposed on the railroad, rather than travel for nothing on the boats. But if it shall appear of any importance for the railroad to run second class trains, in order to meet the competition of the boats for passengers who prefer lower fare to a saving in time, such trains, it has been shown, could be run at half the rate of fare, and make the trip in seven hours, and afford a remunerating profit to the road. At this speed they would always be in advance of the boats, and a great deficiency on the boats for this class of passengers, and free from delays by fogs, sand bars, and low water, would be much better accommodated by the cars, and make an average saving of two to three hours in time.

The railroads, as before observed, would possess the power of running trains more frequently, taking up the passengers more in detail, and thus extend greater accommodations to the general traffic than could be done by the boats.

What can be done by the steamboats on the Hudson is well known, and though there is no railroad actually constructed, it is equally well known, that it can be constructed and run as proposed. The result is as much a matter of certain calculation in the one case as in the other. It is reduced to a practical demonstration, and needs only to be looked at by the eye of an every day philosophy. Speed can be attained, and will command passengers at a remunerating fare, and the irresistible conclusion is—

That the improved facilities the railroad will furnish, will enable it, not only to compete successfully with the boats, for the present traffic: but will be the means of greatly augmenting the number of passengers on the route.

Instead of 150 passengers per train, the fast trains may be expected to average 200 passengers, and the slow, or seven hour train, 350 to 400 per train, during the navigable season. The average daily number of passengers on this route is now estimated at 7000, and the increase the railroad will produce, together with the natural increase, will swell this to 10 000 by the time, or soon after, the railroad can be completed throughout. It is certainly a moderate estimate, to assume that the fast trains on the railroad will take, of this number, 3000, and the slow trains an equal number, making together, 6000, as the daily summer traffic, estimated to average 100 miles each.

The winter traffic, or that during the season of suspended navigation, as before observed, will wholly centre on the railroad, both for freight and passengers. The length of this season, with the uncertainty that attends the close and opening of navigation, may be taken at an average of about four months. If the river route be adopted, it will receive, during this season, nearly as much traffic from the interior route as would come to it if that route were adopted. Being in the valley of the river, it would draw from the west shore a much larger amount of both freight and passengers, than would seek the interior route from the same quarter.

Reviewing the subject, it appears—

First. That the interior route will be more expensive than was indicated by the original survey.

Second. That the cost of constructing the river route over that of the interior route, will be less than was anticipated.

Third. That the cost of working the road on the river route will be so much less than the cost of working on the interior route, as to neutralize the excess in first cost.

Fourth. That the road will be able to do a successful passenger business in competition with the steamboats—and by its peculiar and superior facilities, will greatly augment the passenger traffic.

Fifth. That the valley of the river is the natural thoroughfare for the trade and travel of the country on both sides, increasing in extent and importance, as the line advances north to Albany and Troy—and, consequently, the river route, lying directly in the valley, will most effectually secure its present and prospective business, and render the road more extensively useful to the public.

Sixth. That the river route occupying the natural channel of intercourse and trade, will best secure an adequate income to the stockholders for the outlay they are required to make.

Seventh. That in the aggregate, the river route, presenting the greatest advantages, both to the public and the stockholders, is therefore recommended to be adopted.

It is belived the estimates for the cost of construction, and expense of running the road, will be found fully adequate to meet the wants of the work. They have been reached after thorough surveys, investigations and estimates in detail, which cannot vary essentially from the amounts stated.

The report of J. T. Clark, Esq., locating engineer, is herewith appended.

In conclusion, it may be remarked, that the examinations connected with this question, have incidentally led to a confirmation of the favorable opinion heretofore entertained of the great usefulness and productiveness of this enterprise. Improvement in the means of social and commercial intercourse, have, from time immemorial, been regarded as among the highest evidences of civilization, intelligence, and refinement of society, and it is confidently believed, that the time is not distant, when the benefits of this road will be so developed that none will be found to disparage the work of art that shall justly claim a participation in the production of those efforts that mark the progress of social, intellectual, and moral improvement. To the intercourse of the great thoroughfare on which it is located, as well as to the commercial interest of the city and state, the work is due, as a means of more frequent and rapid transit in summer, and as a remedy for the embarrassment and suspension of communication, now imposed by frost for one-third of the year—and it is demanded as a means of giving to the valley of the Hudson that increased facility of intercourse in its social and commercial relations, that is called for in the present state of science and civilization.

The thorough surveys and investigations that have been made during the last season, place the enterprise on a well ascertained basis, clearly demonstrating its feasibility and usefulness, and afford high inducements, founded upon public advantage and remuneration for the outlay, to stimulate that diligent and intelligent perseverance which may secure an early accomplishment of the great work.

These remarks are made with a profound sense of the responsibility that is involved, and under the firm belief that they are well founded.

Respectfully submitted,
JOHN B. JERVIS, *Chief Eng.*

HUDSON RIVER RAILROAD.—NOTICE for Proposals. Sealed proposals will be received by the Directors of the Hudson River Railroad Company at their office, 54 Wall street, until the 15th day of March, for the Grading, Masonry, Piling and Bridging for that portion of said road which extends from Break Neck Hill to Poughkeepsie, a distance of about twenty miles. The work to be completed by the 1st day of April, 1849, according to the plans and specifications that will be submitted for examination as hereinafter mentioned. A reserve of 20 per cent. on the monthly estimates will be retained by the company until the contract is completed, as security for performance. No transfer of contracts will be recognised or permitted.

The maps and profiles of the line, the plans of work, the form of contract, and specifications of the manner of executing the same, will be ready for examination on and after the 10th of March, at the office of the Resident Engineer, Cold Spring, for that portion of the line between Break Neck Hill and Fishkill Landing: and at Poughkeepsie for the remainder of the line. On the 15th of March the maps, profiles and plans of work will be presented at the office of the company, 54 Wall street.

The line will be divided into convenient sections, and proposals may be made for one or all the sections; the party proposing, to state whether they desire all, and if not, what portion of the work they propose to enter into contract for.

The full names of all persons that are parties to a proposition, must be written out on the same.

The party to any proposition which may be accepted, will be required to enter into contract immediately after the acceptance of the same.

The Directors reserve to themselves the right to accept or reject proposals that may be offered, as they consider the interest of the company to require.

JOHN B. JERVIS, *Chief Engineer.*
Office of the Hudson River Railroad Co.
New York, 22d Feb., 1848. 2t10

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

DAVIS, BROOKS & CO., NEW YORK, offer for sale:
150 tons Railroad Iron, 60 pounds per lineal yard, of an approved pattern, and in long bars; also,
500 tons, ditto, expected to arrive in the month of April next. 6t8

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

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THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.

1y10 New York.

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

GEO. W. TOWNS, *Governor.*

WM. L. MITCHELL, *Chief Engineer.*

Atlanta, Ga., January 24, 1848. [7t6]

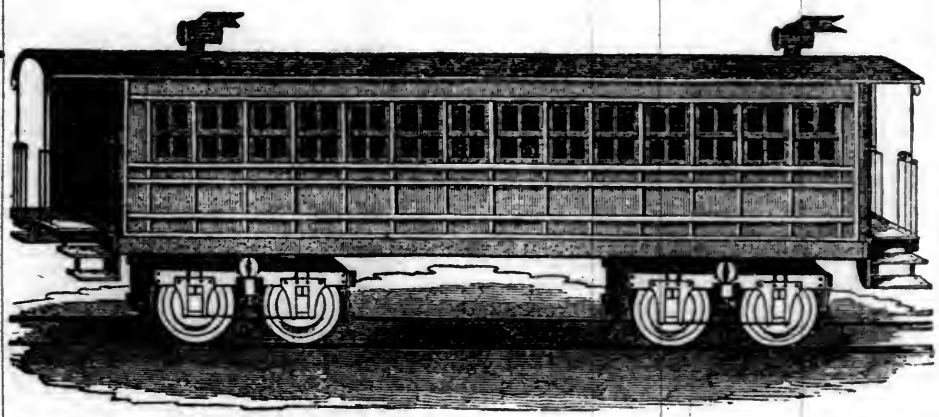
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Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

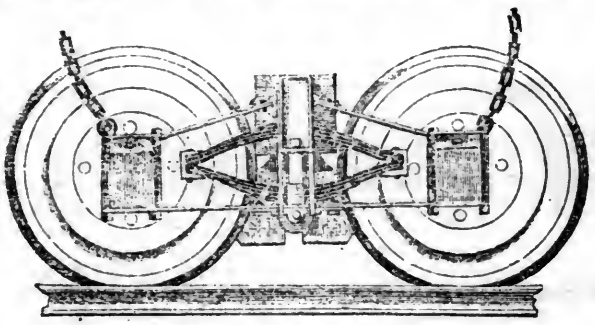
SAM'L KIMBER & CO.,
Willow Street Wharf,
4tt Philadelphia, Pa.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, 1y19 Sup't Motive Power

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	21	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2¾	5	2	6½	9	4	13½	1-2	7½
16	2¾	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

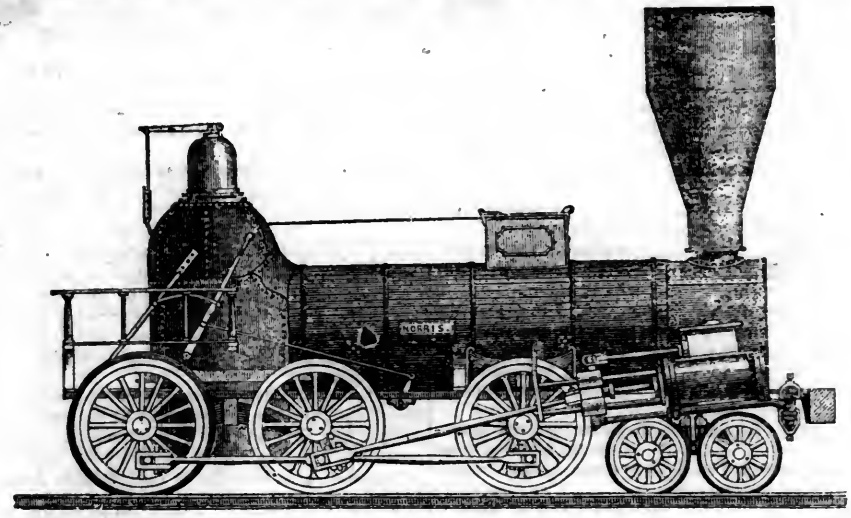
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

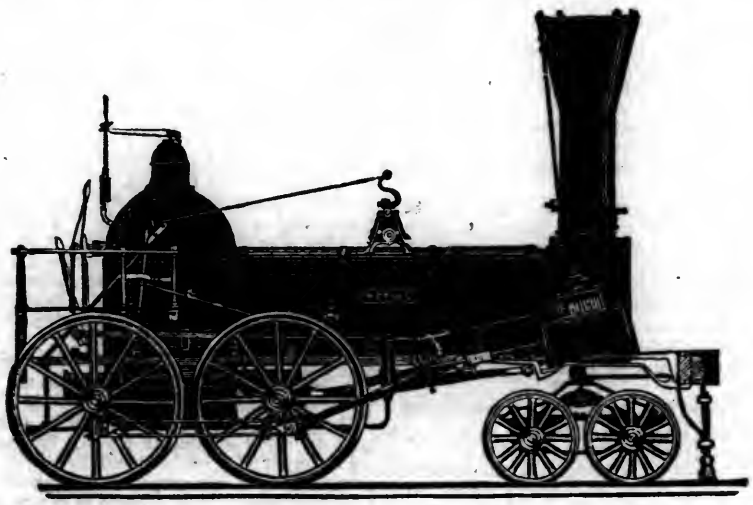
James P. Allaire,
Peter Cooper, } New York.
Murdock, Leavirt & Co.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. } Philadelphia, Pa.
Colwell & Co.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. } Provicence, R. I.
Eagle Screw Co.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES. Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness requited: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

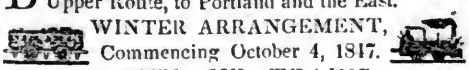
*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.



WINTER ARRANGEMENT, Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11¼ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11¼ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 18 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
5tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35ly

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CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12 Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

i25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.




A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.--1848.




Winter Arrangement.

Philadelphia for Baltimore...8½ a.m. and 4 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 4 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.–Philadelphia to Wilmington, 8½ a.m., *mail*, 1½ p.m., 4 p.m., *mail*. From Wilmington to Philadelphia, 8 a.m., 1 p.m., *mail*, 6 p.m., 12½ a.m., *night mail*.

I. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 41*1y

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

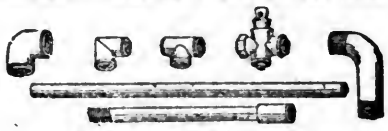
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

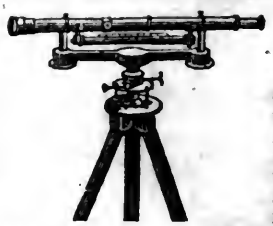
PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

LAP—WELDED WROUGHT IRON TUBES FOR TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER, and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y18

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, March 18, 1848.

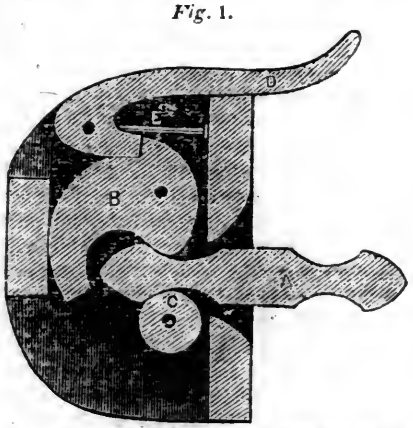
Self-connecting & Self-detaching Coupling Box for Railroad Cars.

Many serious accidents, even to the occasional loss of life, have occurred to the men whose duty it was to couple, or connect the cars of trains on railroads. We have often shuddered to witness the position of men when performing that operation—while they, from constant habit, had hardly a thought of danger. The modes of coupling, on different roads, are seldom precisely the same, which is an evidence that no *one* plan, yet in use, is deemed perfect—though it is evident that various efforts have been made to improve this part of the machinery; and it therefore affords us the more pleasure to be able to present to the readers of the Journal a new plan of a coupling apparatus, invented by MR. A. G. HECKROTTE, of Washington city.

A great convenience of the article is its *self-connecting* arrangements—by bringing the two cars together—and also in its *self-disconnecting* apparatus, when, by any *accident* or carelessness, the *engine* or *leading* car of a train is thrown from the track, thereby making a greater *angle*, with the train behind, than is made by the *shortest* curves on the road.

The following cuts represent the coupling in *two* parts, which are to be attached, one to each end of the car, so that, when two cars are brought together, the bar **A**, being inserted in *one* box, is held in position to enter Fig. 2—while the tumbler **B**, in box Fig. 2, is in position to receive the bar **A**—which, as it enters, without the aid of hands—being guided by the curves on each side, and a lip falling below—pushes the tumbler, **B**, back until it comes into the same position as that in Fig. 1—when it is secured

Fig. 1.



by the lever **D**—operated upon by the spring **E**, and the coupling made perfect; the cars cannot be separated, until *one* or *other* of the levers, **D**, is borne back, as shown in Fig. 2—when the bar may be withdrawn.

C, in Fig. 1, is a cylinder revolving on a pin, so so that the bar, **A**, meets with no resisting body when the coupling is made.

One of the objects of this coupling is to save labor, and *avoid accidents*, in coupling a train of cars.

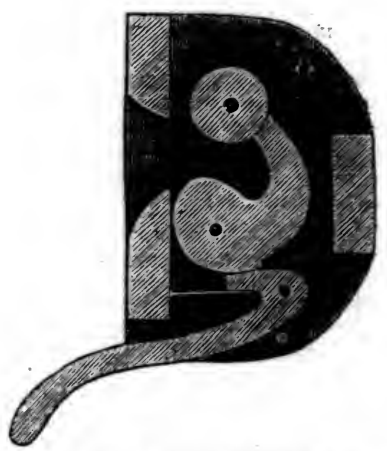
If we may be allowed to form an opinion from a *model*—without witnessing its operation in practice, which we often do, though seldom express it in a very confident manner without additional evidence—we should say that the principal merit of this apparatus will be found in the facility with which the after cars can, and will, be disconnected if the engine or leading car should be thrown from the track.

It will be observed that the levers **D** are so placed that it matters not on which side of the track the engine is thrown off, one of them is brought, by the angle, to bear against the end of the platform, or buffer, by which it is thrown out of gear, the bar **A** is withdrawn from the box, and the after cars remain on the track.

There may be some practical deficiencies in the working of this coupling which we do not discover, but a trial of it was made, we are informed, upon the Baltimore and Washington railroad, some time since, which gave satisfaction; and practical men to whom it has been shown, think well of it.

We hope to see it put in use soon on some of our principal railroads, that it may be thoroughly tested, and, if found what it is represented, it should be brought into general use. The model may be seen at our office.

Fig. 2.



Little Miami Railroad Report for 1847.

We are indebted to WM. H. CLEMENT, Esq., superintendent of this road, for their last annual report. It will be seen by this report that the connection between this and the Mad river road will be made in May next, when there will be much rejoicing among the people of Ohio.

The road also from Columbus to Xenia has been commenced, and will be prosecuted with spirit; and a portion of the *Little Miami road* will be relaid, and a part of it with double track, when the shareholders may anticipate a large increase in their business, and liberal returns on their capital invested.

We shall re-publish this report in our next, nearly entire.

Railroad Reports.

We have several reports on hand, which we will publish in course—and among them the Massachusetts annual, and the Reading, reports.

Charlotte Railroad.

The contracts on the Charlotte railroad, the Columbia *Carolinian* says, for about 16 miles, have been let upon the estimate of the value of the work by the engineers. This looks flattering. Go ahead.

Another Railroad in Massachusetts.

The Northampton Gazette says that a meeting is to be held at Greenwich, on the 15th inst., to take measures for surveying a railroad route, from Palmer depot, up the valley of the Swift river, through Enfield and Greenwich, intersecting with the Vermont and Massachusetts railroad at Athol or South Orange.

Liability of Railroads.

"In the Supreme Court of this State, says the Scientific American, held two weeks ago in the case of Stoddard & Lovering, of Boston, *vs.* the Long Island railroad company, to recover damages sustained in 1846, by four cases of silk goods sent from New York by Adams & Co.'s Express, in the steam boat New Haven, belonging to the defendents, and injured by the express crate containing the goods being accidentally thrown into the dock at Allyn's point. Judge Vanderbilt held that the defendents were not liable as common carriers the goods being under the exclusive care of Adams & Co., but that the jury might pass on the question of neglect or carelessness on the part of the agents of the railroad company. The jury give a verdict for the plaintiffs, of one thousand four hundred and thirty-six dollars, being principal and interest."

This arose, probably, from imperfect arrangement at the landing, for transferring the crates from the boat to the shore—and shows the *necessity* of *proper care* on the part of railroad companies.

Railroads in the West.

The Cincinnati Chronicle states that the entire line of the Mad river railroad is expected to be completed by the 1st of May next, and that then the summer trip between the cities of Cincinnati and New York may be made in *three days*—and all by steam. The programme of the railroad companies, it is expected, will be as follows:

Leave Cincinnati at	2 P. M.
Arrive at Springfield, to sup	7 P. M.
Leave Springfield at	9 P. M.
Arrive at Sandusky, to breakfast	6 A. M.
Leave Sandusky at	7 A. M.
Arrive at Buffalo, to breakfast	5 A. M.
Leave Buffalo, at	6 A. M.
Arrive at Albany, to breakfast	4 A. M.
Leave Albany at	6 A. M.
Arrive in New York	3 P. M.

This makes *three days and one hour!* The traveller would arrive at Boston in three hours longer.

Railway Robbery.

A robbery was committed in one of the Great Western railway cars on the 10th of January, under rather peculiar circumstances. It was a box of coin of £1500. The box was strapped with iron, delivered by a special messenger and placed in a compartment of the car next the guard—who said, "all right, I'll take care of it"—and behind was another compartment in which were four or five well-dressed men, some of whom got in at Paddington. They allighted at different stations on the line; and upon the arrival of the train at Bristol, it was found that the box above mentioned, after being taken out, forced open, and emptied of its contents, had been replaced in its original position. No implement by which the plunder might have been effected could be found. Information of the occurrence was communicated to the principal officers. Billing, the guard, was given in custody.

American Enterprise.

A St. Petersburg letter of the 2d of January, says, "The American firm of Harrison, Winans & Eastwick, the well known contractors for the cars and locomotives on the St. Petersburg and Moscow railway, have obtained the contract for the new iron bridge across the Neva. Another enterprising American firm have obtained an exclusive privilege of cutting *ice* for foreign markets, and are rapidly constructing a pier, ice houses, etc., between St. Petersburg and Cronstadt."

For the American Railroad Journal.

Horse Power.

The editorial request made some months since, in your paper, in relation to the horse power of the steamer Washington, (now running between the city of New York and Bremen,) not having been answered, I beg to say that with many others of your readers, I was much amused with the flourish which the proprietors of that ship made in their published statement of her *two thousand horse power;* and with you, felt some little curiosity to know how such calculations of power could be sustained—having considered the matter, however, I come to the following conclusions, viz:

That steamers are sometimes rated according to what is called "*nominal horse power*," which is determined by the following rule: multiply the square of the diameter of the cylinder in inches, by the velocity of the piston in feet per minute, and divide by six thousand. This rule evidently makes no account of pressure of steam, consequently might be applicable to the English boats, at an assumed pressure of three pounds to the inch, but would not be correct in an American boat carrying twenty pounds per square inch. Hence the rule for determining the *nominal horse power* does not determine the *actual power*. If the Washington carries steam enough, and her piston moves fast enough to work two thousand horse power, why scruple to call it the *actual*, rather than the *nominal* horse power? One horse power, according to Mr. Trott's rule, is a power that will raise 33,000 pounds one foot high in one minute. If the Washington's power can be determined by this rule, the result will be her *actual* power in horses. Nominal horse power is readily ascertained because it is calculated from two circumstances only. Actual horse power is more difficult to determine, because every circumstance must be taken into account—such as pressure of steam, expansion, friction, velocity, etc. FULTON.

Railroads in Ohio.

The Cincinnati Gazette, of 9th instant, says that about one hundred tons of railroad iron have been sent up on the Little Miami railroad, within a few days, from McNickle's foundry across the river. It is part of a contract for 500 tons, which will be sent up as fast as wanted. It is intended for the Mad river railroad, and will form the connecting link of a railroad communication through from Cincinnati to lake Erie. This route will be opened in a few months, when it will prove the great thoroughfare from that city to the east. In anticipation of the expected increase of travel, these two roads have now under contract twelve large and splendid passenger cars, fitted up with spring seats, and luxuriously cushioned, and completed with all the improvements of the best eastern railroads. They are now in the hands of Keck & Davenport, near Cincinnati.

The editor of the Springfield Republican also, in referring to this subject, says, "In a recent walk, we observed that wonders had been done during the winter by these enterprising contractors. The bridge and heavy fill about two miles northeast of town, are in a state of advancement, and when these are finished, the worst is over. We think the iron will be on by the 1st of June at farthest."

We look with much interest for the opening of railroad communication between Cincinnati and the lake. It will be an *era* in the history of the west, and we *hope* to be in at the christening.

Railway Station, Euston Square.

The new building—the scene of the late accident—now constructing at Euston Square, consists of an elaborate vestibule for passengers, 120 feet long, by 60 feet wide, and 55 feet high. It is from a design by Mr. Hardwicke, and will, at a cost of some 70,000*l.*, in addition to the grand passenger hall, contain booking offices, clerks and secretaries' offices, board rooms and rooms for passengers and luggage. The booking offices will be right and left of the great hall, which will be lighted from above, and decorated. It will take nearly twelve months to complete it.

Opening of the Canals.

The following extract from the minutes of the canal board, show that the canals will be opened for navigation at an early day:

Canal Commissioner's Office.
Harrisburg, Feb. 25, 1848.

Resolved, That the several lines of the public works be opened for navigation as follows:

The Delaware division on the 1st of March next,

The Main line, (from Philadelphia to Pittsburg,) on the 10 of March.

The Susquehanna, and North and West branches, on the 15th of March,

Extract from the Journal.

THOMAS L. WILSON, Secretary.

Correspondence of the Commercial List.

Hamburg, Berks Co., March 1st, 1848.

This day, the water is being admitted into the several levels of the Schuylkill Navigation upon the whole of the upper division, extending from Port Carbon to Althouse's, 31 miles below the head of navigation, and by Sunday next, the 5th inst., this part of the canal will be in complete navigable order.

The powerful gales of wind within a day or two, have broken the ice very much, and what little remains in the outlet canals will be broken and removed if necessary.

The remainder of the line may probably be delayed a week longer, but by the 15th instant, the entire canal will be ready for the passage of loaded boats.

M.

Influences of Railways on Other Property.

"We were enabled," says the *Gossip* of the Railway Chronicle, "to give in our last number the first of a series of returns, showing the progress of the Grimsby docks, which our readers know are now the property of the Manchester, Sheffield and Lincolnshire company. The increase of the port dues is most remarkable. The dues last year were above £70,000—more than double those of 1846 (32,000*l.*); more than six times those of 1845; nearly twelve times those of 1844; and about eighteen times those of 1843. This enormous increase has taken place, not from any greatly increased facilities, but merely in anticipation of the advent of the railway to Grimsby. The purchase of the docks was a most fortunate one for the company; even now it is estimated that it is paying above 6½ per cent.: yet some people even wondered why a railway should go to Great Grimsby, and of what use it was to be when it got there. The answer will be a very practical one in bales of cotton, twist and Baltic timber. The new docks will be second in size to none in the kingdom. They are situated at the mouth of the Hum-

ber, and will be candidates for a great part of the shipping which now proceed twenty miles up the Humber to Hull. This short passage is often tedious, and always dangerous. Last week there were as many as 1,300 vessels lying between Grimsby and Spurn Point waiting for wind and tide to proceed northwards. The boats came up to the springs for fresh water, which abound at the mouth of the Grimsby docks, in such numbers that they resemble, says our correspondent, 'minnows in a pool.' Oftentimes from 300 to 600 vessels take shelter here; but 1,300 is so unusual a number as to merit a notice of the fact."

New Railroad Wheel.

The Scientific American says that "Mr. Alfred Judson, of Rochester, N. Y., has invented a railroad wheel, which promises to be of great utility. It has heretofore been found necessary, in casting car wheels, to divide the hub longitudinally into three parts, in order to provide for the contraction of the metal in cooling, and in completing the wheel, to fill the opening in the hub with zinc, and securing each end with heavy wrought iron bands. The plan adopted by Mr. Judson consists in separating each spoke or arm near the rim, by making a part of it form a hollow cylinder, of four inches in diameter, the length of which is equal to the width of the arm, and of equal strength, the arm being separated at the point where the cylinder unites with it. The consequent elasticity of the cylindrical portions allow the wheel to contract without fracturing in cooling, while the simple insertion of a bolt, where the separation is made, gives to the wheel full strength and solidity. The Auburn and Rochester railroad are about introducing this improvement, and favorable opinions are entertained in regard to it. We expect to be able to present a cut and more full description of Mr. Judson's valuable invention in a future number. Measures have been taken to secure a patent."

We do not comprehend this description of the Scientific American, but we can refer the editors to a cast iron plate wheel made here in Philadelphia, by Messrs. A. Whitney & Son, without any opening in the hub—which cools without any strain upon any part of it from shrinking.

Rotary Pumps.

Ewbank says, in his admirable work on Hydraulics, that "rotary pumps have never retained a permanent place among machines for raising water;—they are as yet too complex and too easily deranged to be adapted to common use. Theoretically considered they are perfect machines, but the practical difficulties attending their construction have hitherto rendered them, (like rotary engines) inferior to others. To make them efficient, their working parts require to be adjusted to each other with unusual care and accuracy, and even when this is accomplished, their efficiency is, by the unavoidable wear of those parts, speedily diminished or destroyed;—their first cost is greater than that of common pumps, and the expense of keeping them in order exceeds that of others; they cannot, moreover, be repaired by ordinary workmen, since peculiar tools are required for the purpose—a farmer might almost as well attempt to repair a watch as one of these machines. Hitherto a rotary pump has been like the psalmist's emblem of life: "Its days are as grass, as a flower of the field it flourisheth, the wind [of experience] passeth over it and it is *gone*." Were we inclined to prophecy, we should predict that in the next century, as in the present one, the cylindrical pump will retain its pre-eminence over all others; and that makers of the ordinary ones will then, as now, defy all attempts to supersede the object of their manufacture.

Railroad Iron made in the United States.

The Rochester Daily Advertiser recently made he following remarks in relation to the manufacture of railroad iron in this country.

"Five years ago it was generally supposed that all the railroad iron used in this country must come from England. There was no escape from it. The iron mongers of Great Britain watched with a critical eye every move made towards building new roads. They congratulated themselves on the extension of such lucrative customers. The London *Times* was in estacies at the prospect of the future in supplying our go-ahead people. They counted on a billion of dollars from the Yankees for the article. Their ore beds increased in value; speculations took place in the iron districts; capitalists bought up much iron ore land. We have sent on hundreds of thousands to them for it. But the tables are now turning. In 1844, the first bar of railroad iron was manufactured in the United States Since then, establishments have been erected for the business until we number 16, located as follows:

8 in Pennsylvania.	1 in New Jersey.
2 in Maryland.	1 in Rhode Island.
2 in Massachusetts.	2 in Connecticut.

"They make 119,000 tons per year, equal to 2,288 tons weekly, or 382 tons daily. A heavy track takes 90 tons. Enough is manufactured in the United States *to lay four miles a day*, or *twelve hundred miles a year*."

It is sad to reflect how great a change has taken place in this business within a few months. A majority of these mills have ceased operations, and thousands of men employed in them at good wages are now idle; and in this change no state participates more fully than Pennsylvania. Several extensive works have ceased operations beside the Montour, of which the Danville Democrat says:—"The Montour rolling mill, at this place, suspended operation on Saturday last, their contracts for railroad iron having all been filled. No new contracts can be made under the present state of the iron trade, because foreign rails are now offered and poured into this country at a price so low as to prevent competition from our manufactures. A large number of hands have thus been thrown out of employ. All this is the legitimate result of the *ad valorem* tariff of 1846. For the last two or three years, the demand for iron in England has been very great, and prices correspondingly high, which enabled our operators to go on, and do a profitable business, as they were not compelled to compete with the European prices; but as soon as a revulsion took place in the foreign market, iron fell in price, and under the principles of our abominable tariff, the duty lowered in the same ratio, so much so as to allow English rails to be sold in this country at the present time for something like forty-nine dollars per ton—a price at which it cannot be manufactured here, under the present state of wages, cost of material, etc. When we need protection most, under this system of revenue laws, we have the least of it—and thus the foreign manufacturer is enabled to pour in his iron to the great disadvantage of our own industrious citizens."

Here is another evidence of the kind fostering care, by our rulers, of the *laboring* men and their families. The Boston Courier says that "the Rutland and Burlington railroad company, having cancelled their bargain with the late firm of Horace Gray & Co., have engaged with the agent of an English house, to furnish the iron for their railroad at fifty-three dollars per ton, deliverable either at Boston or New York, freight and insurance included. By this arrangement, a saving of $100,000 is made by the company."

We should make more railroads in this country with American railroad iron at sixty-seven dollars per ton than with English iron at fifty dollars!!!

We are pleased to see the following:

"*Domestic Iron Trade.*—The recent movement of the iron and coal producing interests of Pennsylvania has led to a similar one in Virginia. We learn from the Richmond papers that at a meeting of citizens of Richmond and the adjacent counties, interested in the production and manufacture of coal and iron, held at the Columbia hotel, on the 8th March, 1848, for the purpose of taking into consideration the present suddenly depressed condition of the iron and coal trade of this country, and of appointing delegates to the convention of iron masters and coal miners, to be held at Harrisburg, in Pennsylvania, on the 22d instant—the following resolutions were unanimously adopted:

"*Resolved*, As the opinion of this meeting, that the prosperity of the iron and coal trade, since the passage of the tariff of 1846, has resulted from purely accidental and temporary causes, and that these causes ceasing to exist, these highly important interests are now seriously threatened with all the calamitous consequences naturally incident upon a system of low advalorem duties—a system affording protection when foreign demand absorbs foreign production, and renders protection superfluous, and abandoning our domestic interests to a hopeless competition, when a lessened demand and an over production abroad flood our market, at prices having no reference even to the cost of production.

"*Resolved*, further, As the conviction of this meeting, that fixed specific duties are indispensable to the security of the iron and coal traders of this country.

"*Resolved*, That the chairman be requested to appoint seven delegates to represent this meeting in the convention of iron masters and coal miners, proposed to be holden at Harrisburg, in Pennsylvania, on the 22d inst., and to confer and co-operate with that body in such measures as may be deemed expedient.

"And Holden Rhodes, A. S. Wooldridge, Jos. R. Anderson, Wm. H. Macfarland, A. F. D. Gifford, and David Anderson, Jr., were appointed under this resolution.

"On motion, made and seconded, the chairman of this meeting was added to the delegation."

Hydrostatic Turn-tables.

Mr. Allen, of Crewe, says the London Mining Journal, has taken out a patent for a turn-table, in which he employs the hydrostatic pressure of fluids for the purpose of supporting the superincumbent weight. These tables are constructed of wrought iron plates, the necessary strength and stability being given by numerous vertical ribs of iron plates, attached by angle-irons, to the lower edges of which are also firmly attached, by angle-irons, bottom and circular sides, also of wrought-iron plate, thus forming a hollow water tight box. This hollow platform is supported in the turn-table pit or reservoir by the pit being filled with water or other fluid, and revolves on a central fixed pillar, around which is a projection, on which run a series of friction rollers.—The turn-table pit or reservoir is filled with water or other fluid, just sufficient to sustain, without any deflection of the platform, the maximum weight of the locomotive engine or the carriage, which may, at any time, pass over the turn-table. The height of the surface of the water in the pit being once ascertained and adjusted proportionably with the maximum weight, it is then constantly maintained by a ball cock, attached to a supply pipe, from a cistern above. On the platform are three separate lines of rails abreast, and these are crossed at right angles by three other sets of lines, by which means one turn-table is sufficient to perform the work and effect the transfer of a locomotive engine or carriage from one to the other line, for which, with turn-tables as usually constructed and arranged, two are required; the new one is also worked with considerable economy. The pit or reservoir is formed of masonry or bricks, laid in cement, water tight, having a sufficient firm and stable foundation, on which the centre pillar can be properly supported, the object of which, and the friction rollers, being to reduce to a minimum of the friction caused by the upward pressure of the platform upon the plate or head of the central pillar. A cast iron kirb is fixed on the top of the sides of the reservoir being cast in seg-

ments and bolted together, the circular edge of which is brought in contact with the outer edge of the platform, which thus revolves flush with it. By the arrangement of the rails, as adopted by the patentee, a locomotive engine or carriage may be transferred from one line to another by a semi-revolution of the turn-table.

Artificial Stone.

A paper was read before the Institution of Mechanical Engineers, London, January 11th, descriptive of Mr. F. Ransome's process of making artificial stone.

"The *modus operandi* appeared to be simple. Broken pieces of silicia (common flint) being subjected for a time to the action of caustic alkali, boiling under pressure in a close vessel, formed a transparent silicited solution, which was evaporated to a specific gravity of 1·600 (distilled water being 1·000,) and was then intimately mixed with given proportions of well washed sand, broken granite, or other materials, of different degrees of hardness. The paste, thus constituted, after being pressed into moulds, from which the most delicate impressions were readily received, were subjected to a red heat, in a stove or kiln, by which operation the free or uncombined silicia of the raw material, united with the excess of alkali existing in the solution, thus forming a semi-vitreous compound, and rendering the artificial stone perfectly insoluble. This production must evidently be adaptable to a comprehensive range of objects for decorative art and architectural purposes, busts, vases, flooring, tiles, steps, balustrades, mouldings, capitals, shafts, and bases of columns, etc. Even grinding stones and whet stones for scythes have been made—and in fact, from the beauty and variety of the specimens exaibited, there would appear to be a vast field open for such a production. It was stated to be already extensively manufactured at Ipswich, and it was allowed to admit of extensive application where elaborately carved stone would be too expensive."

Railways a Cause of Distress or Prosperity.

The Editor of the Railway Chronicle says that Mr. Truck has presented the public with another edition (the ninth) of this compendious and useful railway manual; and in the preface he exposes the fallacies of the anti-railway cry, and thus argues in behalf of the service for whose especial use his book is composed:

"Instead of railways being the cause of national distress, they are an element of prosperity, a source of national wealth, a means of existence to tens of thousands of the people. By the population returns, it is shown that we increase at the rate of 400,000 a year, or upwards of 1,000 a day, and where can this increasing and superabundent population find subsistence except in railway operations? The land does not employ one more laborer than it did fifty years ago; and every branch of manufacture, trade or commerce is already greatly overstocked. In railway occupation only can this additional quantity of laborers be absorbed, which has opened a fresh field of enterprise, a new source of wealth, not in distant inhospitable regions, but within our own country, where every shilling expended returns back to the trader, in exchange for food and clothing. By a return ordered by the house of commons to be printed, it appears that the number of persons employed on railways open for traffic in the spring of the present year was 47,218, and on railways in course of construction 256,509, making a total of 303,727. If this be multiplied by five—the average number of a family—we have the enormous quantity of 1,218,635 persons subsisting by railway employment? If to these be added all those engaged in the construction of locomotives, carriages, rails and articles required for the carrying stock and working expenses of railways, we shall find a larger number of persons employed on railways than is to be found in the manufacture of the textile fabrics of cotton, woolen and silk, or in the great staple of iron and hardware.—By a parliamentary return, it appears that 43,790,983 persons travelled on 63 railways in the course of a year ending June, 1846. Since that period, the traffic has greatly increased on the old lines, and many branches have been opened. The opponents of the railway system have to show how this busy intercourse can be carried on except by railway locomotion. They will hardly contend that it could be accomplished by any of the old modes, or by canal, stage coach, broad wheel wagon, or pack horse united."

Mr. Truck understands the subject of *railways and their influences*.—[Ed. R. R. J.]

Allegheny Portage Railroad Report for 1847--By Thomas J. Power, Superintendent.

In this number of the Journal we conclude the Columbia railroad report, and also give that of Mr. Power, showing the business operations, receipts, and expenditures for the year 1847.

This road is different from all other railroads in use, either in this country or in Europe, being only 36¾ miles in length, passing over the Allegheny mountains, by *ten* inclined planes, and connecting the business of the canal from Pittsburg to Johnstown, on the west, with that of the canal from Hollidaysburg to Columbia on the east side, and thence to Philadelphia by the Columbia railroad, and to Baltimore by the Susquehanna, York and Wrightsville railroad.

These inclined planes are worked by stationary power, and mostly, we believe, with wire rope manufactured by Mr. J. A. Roebling. The levels between the planes are mostly worked by horse power, thus requiring three different kinds of power within thirty-seven miles, which is, of course, very complicated and expensive.

The system of portable boats used on this line, requires a heavy outlay, and is very destructive to the road, yet having been adopted, cannot well be dispensed with.

REPORT.

To the Board of Canal Commissioners of Pennsylvania:

GENTLEMEN:—I herewith transmit the operations of the Allegheny Portage railroad during the past season. The road opened for business on the 11th day of March, and continued in operation until the 7th of October, when business was suspended for one week, (except the transit of passengers,) in consequence of the flood having destroyed two stone viaducts of forty span each, over the Conemaugh, and the boat slip at Hollidaysburg. The track was carried away at the foot of planes 7 and 8, and the road was materially damaged at several other points. Temporary structures were put up at the viaducts, the track repaired, and the road reopened on the 14th, and was kept in operation until the 26th of November. After the flood, the motive power expenses were reduced as much as possible; yet the road could have done a heavy amount of business at a small additional expense to what it actually cost.

I deemed it my duty to open the road after the flood, for the purpose of accommodating the local business of the community, and to pass goods that were caught on the way at the time.

Notwithstanding a large amount of trade was diverted from the road in consequence of the disasters to the canals, the tonnage and receipts show a handsome increase of former years.

When I took charge of the road, on the 20th February, arrangements had been, and were being, made for putting locomotives on four of the short levels, viz: between planes 2 and 3, 3 and 4, 5 and 6, and 8 and 9, where horse power had been formerly used. To carry out this arrangement, would have required fifteen locomotives that could be relied upon, and at least four for extra; there were but fifteen on the road in all, and two of these were undergoing repairs in the depots, and could not be got out for several weeks after the opening of the road; three were to be sent from the Columbia road on the opening of navigation; there were but two sent, and they did not arrive until the 6th of April, and then in very bad condition, not being in running order, defective in every particular, and requiring heavy repairs before they could be put on the road. The "Kentucky" broke down immediately after the road opened. The water stations and sidings on these levels were not in any case perfected, and the engines had to pass down one, and sometimes two planes, to receive water. Under these circumstances, it became imperative to change the whole arrangement, which had to be done on the eve of, and after, the opening of the road, at a great disadvantage to the commonwealth, as I was compelled to pay unusually high rates for horse power. Many of the contractors for horse power at the head and foot of the planes abandoned their contracts early in the season, and some of them never commenced work; but few of the contractors for wood and sawing had filled their contracts, and they had to be procured at prices considerably higher than had been contracted for, all of which has tended to swell the motive power expenses. Yet this department has sustained itself, and yielded a profit to the commonwealth of $57,426, as will be seen in tabular statement No. 1.

The receipts for motive power and for the use of trucks, amount to $181,711 21, and the entire expenditures for motive power, ropes, trucks, boat slip engines, passenger cars, improvements in depots, and increased value of stock of materials for motive power is $146,388 27½, which leaves a balance of $35,322 93¾; to this balance may be added present value of new trucks, slip engines, improvements to machinery in depots, and increase in value of materials for motive power, $27,262 28, which would leave a clear earning of the road in these departments of $62,585 21¼, as will be seen by reference to tabular statement No. 1.

There were fifteen locomotives on the road last spring; eight of them could be depended upon; five others were in running order, and two of the same class undergoing repairs at the depots; to this number has been added the two very defective ones from the Columbia road. This number would be sufficient for the business under the present arrangement for horse power on the short levels, were the engines all to be depended upon; but of the seventeen, only eight can be entirely relied upon. Seven are so much worn as to render them uncertain, and require heavy repairs, and two are not worth keeping up under any circumstances.

There should be at least two new locomotives had for this road in the spring, as with the old ones we will frequently be compelled

to employ temporary horse power, while the engines are undergoing repairs.

The boiler of the "Bush Hill" exploded on the 23d of April, rendering her entirely useless for the balance of the season. The particulars were reported to the board at the time.

STATIONARY ENGINES.

Six of the engines were taken up during last winter for repairs, viz: at planes 2, 3, 6, 7, 8, and 9. Four of them had not been replaced when the road opened; at two of those planes, viz: 2 and 8, the boilers of the engines that had to be used were so defective that the business was frequently retarded while they were undergoing repairs; and they could not at any time be worked to more than half their capacity with safety. New boilers are being made for these planes. Several of the other engines were in extremely bad order, and I employed a competent workman, and gave him charge of their repairs, as the business of the road was so heavy as to prevent the engineers at the planes from doing them. During the coming year new stacks will be required at planes Nos. 1, 7, and 8, and the foundations of the furnace and boilers at plane 8 will have to be renewed. New bed timbers will be required at planes 3 and 5, and the foundation and bed timbers must be renewed at plane No. 9. At No. 7 one set of new cylinders are required; and new side pipes to the east engine at plane 1. Four double groove sheaves will be inserted for the purpose of receiving the wire ropes; all of which will be had in readiness in due time.

ROPES.

I found several of the ropes for the planes very defective, so much so as to materially retard the business in the early part of the season, and to require the riggers to be almost constantly on the planes for the purpose of splicing, to prevent accidents. A contract had been entered into for four wire ropes, to be delivered at the opening of navigation, but the contractor informed me that he could not have them in readiness; and I immediately ordered three hemp ropes, and eight hundred feet for splicing, which was promptly delivered, but owing to the great scarcity of hemp, ropes of the *best* quality could not be had. Four new wire ropes had been put upon the road during the season, viz: at planes 3, 6, 8, and 9. And others have been ordered for next year, for planes 1, 2, 4, 5, and 10; the one for No. 5 has been delivered, and for No. 1 is completed, and will be delivered during the winter. The others will be made and ready to ship at the opening of navigation. They would all have been delivered during the fall, but the flood prevented the contractor from getting his wire in time. There is one new hemp rope on hand, which was purchased late in the season, for fear the wire ones might not arrive. This one will be put upon plane No. 10 in the spring, until the wire one arrives, and afterwards kept for an extra.

The amount expended for hemp ropes is $9,364 08; for wire ropes $10,900 84, making in all $20,264 92, all of which has been paid. The cost of ropes for planes Nos. 1, 2, 4, 5, and 10, will be $12,500, being $8,400 less than was paid this year.

TRUCKS.

There were seventeen sets of trucks at the opening of the road, four of these were built at the Johnstown depot during the past winter, one set was undergoing repairs, leaving but sixteen set for the commencement of business. This I found to be entirely too small a number to meet the demands, and I immediately had two sets built in the depot at Hollidaysburg, and got two sets built by Messrs. Smith & Crouse. These were all had early in the season. There is now one additional new set at Hollidaysburg that has not yet been used, and two sets nearly completed at Johnstown, and will be ready for spring business. There is a sufficient quantity of material on hand to complete those at Johnstown, and to put all the others in as good order as they will admit of, and have a full supply of extra wheels and axles to be distributed along the road to meet emergencies. There will be twenty four sets in the spring, viz: three new sets, four built during the summer, four built last winter, and thirteen old ones. This number will be sufficient to meet the demands, as they will all be put in good order by the opening of navigation. Engines were put up at the boat slips during the past winter, at a cost of $2,572 89.

The expense in this department has been unusually heavy. This the business demanded, unless the system is to be abandoned, which would be ruinous to many persons who have invested their all in section boats, and injustice to all that have embarked in the trade, under the assurance from the commonwealth that they would be furnished with the necessary facilities for the transit of their boats. The system bears heavily on the motive power and repair departments, on account of the weight of the boat, (about twenty-seven thousand pounds,) that pays no toll; something should be charged for this, and be properly distributed between the motive power and road toll. To this I think the boatmen would not object, if a full supply of trucks be kept, as the delays for want of trucks have cost them more than the additional toll that would be required.

For the expense of system, see statement No. 2.

PASSENGER CARS.

There are three large class passenger cars and two small ones, and two baggage cars on the road. Two of the large cars have been run constantly during the season, and the other one and the two small ones have been used as extras. One of the large cars is in tolerably good order; all the others are old and dilapidated, and cannot be considered entirely safe; they have required heavy repairs to keep them in order during the season. I most earnestly recommend to the board that one new one be ordered immediately, that it may be put on early in the spring.

The receipts during the year amount to $17,269 99, and the expenditures amount to $2,603 08. For detailed account of expenditures, see statement No. 3.

DEPOTS AND MACHINE SHOPS.

The machinery, tools, etc., in the depots, I found to be entirely inadequate to the amount of business required to be done therein, so much so that a portion of the work had to be done elsewhere, and at great inconvenience and delays, as it could not at all times be had when most required. To obviate this difficulty, I had new lathes, bending machine for boiler iron, and other improvements made at a cost of $1,890 88.

The amount of tonnage which passed over the road during the year is 347,757,300 lbs., being an increase of 55,940,800 pounds over last year. The amount of motive power tolls, and tolls for the use of trucks, is $181,711 21, showing an increase of $41,071 46 over last year. The amount of railway tolls collected is $48,949 67, being an increase over last year of $2,911 63.

The system of maximum tolls prevents me from showing the actual railroad toll, as a large portion of it is collected at Philadelphia, Columbia, Pittsburg, and other points.

The motive power expenditure were as follows:

Amount prior to the 20th February		$10,223 33½
Amount after the 20th February		136,164 94½
Total expenditures, (repairs excepted,)		146,388 27½
Amount paid by my predecessor	$2,019 34	
Amount paid by me	118,426 33½	
		120,445 67½
Balance		25,942 60½

REPAIRS.

I found the road very much out of repair; the track was so much so as to render it difficult to keep it in such order as to enable the engines and cars to pass over it with any degree of safety, or at sufficient speed to facilitate the business. The ditches, drains, and culverts were filled with wash from the mountain side, to such an extent as to force a considerable portion of the drainings over the bed of the road, thus keeping the foundation of the superstructure constantly saturated with water, and rendering it impossible to keep the track in proper adjustment. On the planes the side ditches were filled, which forced the water on to the tracks, and down the face of the planes, to their great injury. I immediately employed a large force, and gave the foreman instructions to have the obstructions removed as soon as possible. Many of the worst places in the track were taken up and new timbers inserted, and the whole superstructure put down in a permanent manner. The whole condition of the track has been much improved, though it is not yet in such order as it should be, nor can it be made so, unless a quantity of new iron be had. There is not a spare bar on the road, and many of the bars are so much worn that it is no unfrequent occurrence for them to break.

The track has been kept up for several years, by taking the iron from the sidings, and the tracks at the lower end of the basins at Hollidaysburg and Johnstown, all of which should have been kept up, instead of being thus dismantled; but the want of funds has left the superintendent no other alterna-

tive. At least twenty tons of new iron should be had for keeping up the main track, as it will be almost impossible to keep the road open without it.

I would also recommend that a quantity of heavy rail be had for the purpose of laying the ascending track on planes 6 and 7. The The flat bar was used on the planes in the original construction of the road, and they have become so much worn and broken as to require heavy expenditures to keep them in order. The bars are worn so thin that the weight of the cars destroys the timber under them long before it would decay, and to replace it causes frequent delays at the planes, which renders it necessary that much of this work should be done at night.

The cost of laying planes 6 and 7 with the heavy rail, would be $8,600. The repairs on the ascending track of these two planes cost about $800, while the interest on the cost of the improvement, and the expense necessary to keep it in order will not exceed $600.

This improvement would enable the stationary engines to do a much greater amount of work, and materially reduce the wear and tear to the ropes and machinery.

This improvement has been strongly recommended by my predecessors, and the time has now arrived when some such improvement must be made, as the road cannot be much longer kept open without it. I purchased fifteen tons of the flat bar during the season, for the purpose of keeping up the planes until this improvement could be commenced. By laying two of the planes in this way each year, the whole would be completed in five years. It would have been much better had this work been commenced several years ago, as it will be difficult now to keep the road up until the work can be done.

The foundation of the road on the steep hill side between planes 3 and 4 has been giving way for several years, which rendered it very dangerous. I have had a portion of it permanently secured by a heavy cribbing put down near the creek, and the balance will be made secure as soon as possible.

The culvert at the foot of plane No. 6 gave way during the summer, and has been permanently repaired.

A new foundation was put under the dwelling at the head of plane No. 6; this was necessary to prevent the house from falling. There has been ninety-eight tons of castings put into the road during the season. This was necessary, as many of the castings in the road were worn out and broken in such a manner as to cause great damage to the locomotive and cars. There has been six thousand two hundred and fifty locust ties, thirty-three thousand and ninety feet of string timber, and three thousand fifty feet of mud sill inserted, and about eighteen thousand feet of water pipes laid during the year.

The heavy slope wall at plane No. 7 is giving way, and requires protection which is now being made.

The whole amount of expenditures for repairs during the season are as follows:

For ordinary repairs		$28,832 86¼
For extraordinary repairs, (damage by flood, etc.,)		10,299 97
		39,132 83¼
Amount paid by my predecessor	$716 37	
Amount paid by me	22,738 69	23,485 06
Leaving a balance unpaid of		15,647 77¼

NOTE.—There has been $2,764 31 worth of old metal, scraps, ropes, etc., sold, all of which have been credited on the proper bills.

The culvert under plane No. 1 has given way, and will require to be repaired during the coming season: also, one of the culverts on the Hollidaysburg level. A new turning platform will be required at the tunnel.

The engine sheds at the head of the planes are many of them in such bad order that they will not protect the engines and machinery from the weather, and will require considerable repairs. The dwellings for the engineers and hitchers, should also receive some repairs to keep them from going to destruction.

An estimate for these repairs is appended in tabular statement No. 5.

The road was very materially damaged by the flood of the 7th of October, an estimate for the repairs of which was reported to the board; to which estimate should now be added $2,000 for work that was partly finished and destroyed by the flood of the 24th of November.

There has been expended on this work for labor and materials $5,058, which remains unpaid, and is covered in the estimate for repairing the damages by flood. This work will be in readiness for the opening of navigation. See statement No. 5.

The machinery on this road is so various and complicated, and there are so many different changes necessary in the transit of cars from one kind of power to another, that unless all is put in, and kept in good order, the business must be subject to frequent and vexatious delays. I have made every effort in my power to have the machinery so improved, and have so far succeeded that I think there will be but little cause for complaint during the coming season, which improvements have tended much to swell the expenses of the past year. Respectfully,

THOS J. POWER, *Sup't of Motive Power, and Supervisor of Repairs, Allegheny Portage Railroad.*

December 1, 1847.

INDEX TO TABULAR STATEMENTS.

No. 1 exhibits the operations of the different departments.

No. 2 exhibits the receipts and expenditures of the truck system, and estimate of expenditures for 1848.

No. 3 shows the receipts and expenditures of passenger cars.

No. 4 exhibits the entire expenditures of the road for 1847, and estimate for 1848.

No. 5 exhibits the estimate of amount required for repairs for 1848, and to pay debts due on repairs, 1847.

No 6 exhibits the total receipts and expenditures of the road during the fiscal year '47.

No. 7 exhibits the superintendent and supervisor's account with the State treasurer.

STATEMENT No. 1,

Exhibits the operation of the road in the different departments for the year terminating 30th November, 1847.

Tolls received for motive power		$155,117 70
Motive power, wheel toll on trucks, & for use of trucks		26,593 51
Total receipts in motive power department		181,711 21
EXPENSES.		
For direct motive power	$86,931 60¼	
For ropes	20,264 92	
For trucks, slip engines, etc.	29,049 28	
For passenger cars and agents	2,603 08	
For increase in materials on hand, for mot. power.	5,648 51	
For improvements to machinery, etc., in depot	1,890 88	146,388 27¼
Difference in favor of motive power & trucks, including whole expenses		35,322 93¼
Add for new trucks, slip engines, and materials for trucks		19,722 89
Increase of stock of materials for motive power		5,648 51
Additional machinery, tools, etc., at depots		1,890 88
Profit in motive power and truck department		62,585 21¼
MOTIVE POWER DEPARTMENT.		
Motive power tolls for the year	155,117 70	
Motive power wheel toll on trucks	12,107 90	
Direct motive power expenses	86,931 60	167,225 60
Ropes	20,264 92	
Passenger cars	2,603 08	
		109,799 60
Balance in favor of motive power		57,426 00
REPAIR DEPARTMENT.		
Amount of railway toll for the year		48,949 67
Expended for ordinary repairs	$28,832 86¼	
Extraordinary, (damage by flood excepted,)	10,299 97	
		39,132 83¼
Excess of receipts		9,816 83¼

STATEMENT No. 2,

Exhibits the receipts and expenditures of the truck system, for the fiscal year ending 30th November, 1847, and estimate of expenditures for 1848.

Tolls received for the use of trucks		$14,485 61
CHARGES TO SYSTEM.		
Paid for trucks purchased	$3,900 00	
" materials for trucks	6,904 16	
" castings for trucks	6,522 00	
" two new engines at boat slips	2,572 89	
Paid for expenses at boat slips, including oil	4,582 81	
Paid for labor in depots, making and repairing trucks	4,072 92	
Paid for truck agents	494 50	
Total expense of system	29,049 28	
CREDIT SYSTEM.		
With 1 set new trucks at Hollidaysburg	$1,909 00	
With 2 set partly finished at Johnstown	2,600 00	
With 4 set built last winter, pres't value	5,800 00	
With four set during the summer	6,200 00	
With materials for trucks on hand	650 00	
With 2 engines built at boat slip	2,572 89	
	19,722 89	
		9,326 39
		5,159 22
Decrease in value of 13 sets of old trucks		1,700 00
Profit of system		3,459 22

ESTIMATE OF EXPENSES OF TRUCK SYSTEM FOR 1848.

Expenses, including oil, at two boat slips		4,350 00
Materials for repairing trucks		1,500 00
Castings for trucks		1,000 00
Truck agents		500 00
Labor in depots for trucks		1,500 00
		8,850 00

This amount is included in the estimate, in statement No. 4, but is put here separate, to show the probable expense in this department.

STATEMENT No. 3,

Shows the expense of passenger cars from the 1st of December, 1846, to the 30th of November, 1847.

Amount received on passengers		$17,269 99
Pay of two passenger car ag'ts, and one state agent	$1,406 00	
Oil for passenger cars	105 00	
Repairs to passenger cars	816 83	
Changing baggage and hire of cars	245 25	
	2,603 08	
		14,666 91

The number of passengers over the road, is eleven thousand six hundred and twenty-four.

STATEMENT No. 4,

Exhibits the entire expenditures for motive power during the fiscal year 1847, and estimate for 1848.

Items.	Total expenditure in 1847.	Estimate for 1848.
Engineers, etc., at incl'd planes.	$20,217 30	$21,000
Locomotive engineers and firemen	9,493 64½	9,500
Labor in riggers loft	1,523 27½	1,500
" Hollidaysburg depot	6,470 91	5,500
" Johnstown depot	8,229 73½	7,000
" Summit smith and carpenter shops	1,344 51½	900
Coal at stationary engines	4,933 89	5,000
Johnstown boat slip	1,736 96	1,700
Hollidaysburg boat slip	1,795 85	1,700
Wood, including sawing and splitting	8,511 66	9,000
Horse power on levels	13,572 53	13,000
" at head and foot of planes	5,707 14	5,000
Materials for building and repairing trucks	6,901 16	1,500
Castings for trucks	6,522 00	1,000
Truck agents	491 50	500
Labor, repairing stationary engines	1,600 10½	1,600
Passenger cars and state agent.	1,406 00	1,400
Superintendent, assistant, and clerk	2,396 00	3,650
Tools and materials for motive power	15,588 60	5,000
Hemp ropes	9,361 08	12,500
Wire ropes	10,900 84	
Oil and tallow	3,831 43	4,000
Motive power car conductors	532 57½	400
Changing baggage at Hollidaysburg	245 25	250
Miscellaneous	764 21	500
Castings for motive power purposes	2,301 11	1,500
	146,388 27½	114,600

Deduct expense of truck system	$29,049 28	
Deduct cost of rope	20,264 92	
" expense of passenger cars & state agents	2,603 08	
Deduct increase in value of materials.	5,648 51	
Deduct additions to machinery, depot	1,893 88	
	59,456 67	
Direct motive power expenses		86,931 60

STATEMENT No. 5.

Estimate of amount required for repairs for 1848, and to pay debts due on repairs, 1847.

FOR ORDINARY REPAIRS.

For pay of foremen, carpenters, and laborers	$17,500 00	
For materials	6,000 00	
For castings	4,500 00	
		$28,000 00

EXTRAORDINARY REPAIRS, (DAMAGES BY FLOOD EXCEPTED.)

For cleaning out culverts, drains, and ditches, and protecting hill slips, and slope wall	5,100 00	
For new turnround at the tunnel	300 00	
For building three new stacks at planes 1, 7 and 8	1,200 00	
For repairing foundations at planes 5, 8 and 9	1,500 00	
For twenty tons railroad iron for repairs	1,400 00	
For repairing engine houses and dwellings	3,000 00	
		12,500 00
Amount required for 1848		40,500 00
To pay balance due for labor and materials for 1847		15,617 77
For repairing damages by flood of October 7, as formerly reported	17,900 00	
This amount will be increased in consequence of flood of 24th November, damage to work then partly finished	2,000 00	
		19,900 00
Total amount required in repair department		76,047 77

STATEMENT No. 6,

Exhibits the receipt's and expenditures of the road from the 1st December, 1846, to the 30th November, 1847.

Receipts for motive power, as per reports of collectors		$155,117 70
Receipts for use of trucks and truckage.		26,593 51
Receipts for railway tolls		48,949 67
Total receipts		230,660 88
Expenses of maintaining motive power	$86,931 60	
Expenses of ropes for planes.	20,264 92	
Expenses of truck system	29,049 28	
Expenses of passenger cars.	2,603 08	
Expenses of increased stock of materials for motive power	5,648 51	
Expenses of additional machinery, tools, etc., at depots	1,890 88	
Expenses of ordinary repairs to road	28,832 86½	
Expenses of extraordinary repairs to road	10,299 97	
		185,521 10½
Net profits of the road, (damages by flood excepted,)		45,139 77½

STATEMENT No. 7,

Exhibits the accounts with the State treasurer.

MOTIVE POWER DEPARTMENT.

To amount drawn from treasury for motive power		$129,900 00
By amount paid for motive power expenses	$58,863 17	
By amount paid for ropes	20,264 92	
By amount paid for labor in Hollidaysburg depot	4,522 24½	
By amount paid for labor in Johnstown depot	6,122 80½	
By amount paid for materials and castings for trucks,	7,697 10	
By amount paid for labor, repairing stationary engines	1,343 21	
By amount paid for tools and materials for motive power	8,032 15	
By amount paid for castings for motive power	1,602 34	
By amount paid for riggers loft and Summit shops	2,282 43½	
By amount paid on debts due previous to 20th Feb.	7,695 96	
By amount paid on debts prior to 1st Dec., 1846	925 22½	
		119,351 56
Amount due commonwealth		10,548 44

REPAIR DEPARTMENT.

To amount drawn from the treasury for repairs		23,000 00
By amount paid for ordinary repairs	15,069 10	
By amount paid for extraordinary repairs	7,669 59	
By amount paid on old debts.	259 89	
	22,998 58	
Amount due commonwealth		1 42

Engine Counter.

"Mr. Richmond, of Bow, exhibited and explained an engine counter, manufactured by him, on an improved principle. The counters in ordinary use were described as somewhat inefficient machines, liable to error, or of too expensive construction to be generally employed. This counter differed from others chiefly in its simplicity and its accuracy, whilst at the same time, its low price of £7 brought it within the reach of every one. With this machine, the number of strokes made by the engine or other machine could be read off at one view without calculation. The leading or unit hand traversed the entire circumference of the large dial, and those of the three small dials revolved in the same direction. The first motion was described as being given by a sliding bar and fixed spring, instead of by a double pallet, so that the first wheel could not be thrown more than one tooth by one stroke of the engine. The hands were all moved by a train of wheels and pinions, without skip wheels, so that the motion was regular and progressive. These were admitted to be advantages, and in the discussion upon the machine, its merits appeared to be shown very decidedly."

Parcel Traffic on the English Railways.

Practical Suggestions for Increasing the Parcel Traffic on Railways, etc, etc.

Continued from page 154.

35. It has been shown that a parcel of a pound weight might be received, carried, and delivered between London and Birmingham for 4d.; and that of this sum 3d. may be charged to receipt and delivery, including cost and risk, and 1d. to carriage. The distance is 112 miles.

36. If I can show that this distance is certainly a fair average distance every parcel is conveyed throughout the whole kingdom, I shall have established a *prima facie* case for rejecting distance altogether, as an element of charge, and of adopting a UNIFORM RATE for the whole kingdom. Are there any grounds for supposing that parcels are carried further than passengers? The average distance each passenger travels between Birmingham and London is about 65 miles; on the Great Western it is 35 miles; on the South Eastern 39 miles; on the South Western 39 miles; for the whole kingdom the average has been estimated about 13 miles. If the average distance of passengers be objected to, surely that of letters will be admitted to afford an unexceptionable analogy. I have good reason for believing that the average distance a letter is estimated to travel, certainly does not exceed 80 miles. To take, therefore, 112 miles as the average distance each parcel travels, is surely a most ample allowance. Four pence, therefore, for the transit (including receipt, carriage, and delivery,) of a parcel of a pound would be a fair and remunerative rate for the whole kingdom. There would be a profit even on parcels sent from the two extremities, from Land's End to Inverness, say 500 miles; for as 0 2d. pays quite profitably for carriage on 112 miles, so five times that amount would pay

profitable for less than five times that distance, to say nothing about the profit on the receipt and delivery.

37. It is with parcels as with letters. The numbers decrease according to distance. Thus take any two towns of like circumstances, and of equal population, the one distant 50 miles from London, and the other 200, and the number of letters passing between London and the first will be more numerous than those between the latter, almost in the pro portion of four to one. Such will be found to be the case with parcels.

38. And here it may be remarked that the very smallness of the charge is another *reason for the uniformity*. The cost of railway expenses with profit being only 0 2*l*. per lb., it is not worth while adopting varying rates, adding the same amount (under a farthing) for every additional 100 miles, or subtracting the proportionate parts of 0 2*l*. for distance below 100 miles. In fact, it would be more JUST, as well as most convenient and very profitable, to establish a uniform rate of charge.

39. Having thus shown that a uniform rate of 4*d*. for a parcel of a pound, sent from any part of the kingdom to another, would be remunerative, the next thing is to determine the scale for parcels exceeding a pound. The charge for receipt and delivery would of course only occur *once* with each parcel. Therefore I propose, after the charge of 4*d*. for the first pound, to adopt a scale of ½*d*. for each pound after the first; perh ps taking no tice only of gradations of two pounds, to save trouble in weighing.

40. Thus the plan which I propose is, that on all the railways of England and Scotland, parcels sent by PASSENGER TRAINS should be subjected to the following rates per pound—distance, as an element of charge, being discarded:—

Under 1 pound	4*d*.
Above 1 pound and under 3 pound	5*d*.
Above 3 pound and under 5 pound	6*d*.
Above 5 pound and under 7 pound	7*d*.
Above 7 pound and under 9 pound	8*d*.

And so on in proportion—a penny for every two pounds.

41. Of course the charge of 3*l*. for receipt and delivery, remains the same with all parcels: the only charge which increases is that for weight. We have already shown that 0·2*l*. per pound actually pays all railway charges. A rate of 1*l*. per 2 pound would be rather an increase on the present charges on heavy parcels, whilst it would at the same time be a most welcome change to the public.

42. It would make heavy parcels for short distances rather dearer than they are now. There is no objection to this, as the public would have the advantage in the lighter parcels, and would always have *the option of sending heavy parcels by the luggage train at the present cheaper rate*. We have sufficient evidence in the recent post office changes to show that there would be no opposition to raising the rate in some cases, coupled with the lowering it in others.

43. The effect of the penny post was to increase the rate of postage in the London district, and other local posts throughout the kingdom. The quarter of a pound letter, which before the penny post was sent for 1*d*. out of London, and 3*l*. in London, became charged under the penny post with 8*l*. 1 But not a murmur was heard on this account. Every one welcomed the change for its ge neral good, and did not regard the exceptions.

44. Of course it would be necessary that every railway should combine to adopt the general system, and receive its proportionate profits. But a beginning might be made on the London and North Western and Midland railways. There is already the nucleus of a machinery, and there would be no difficulty in extending the principles of the clearing house system to every railway. But it is not necessary to enter upon the organization of the plan here in detail.

45. The receipt and delivery would extend only to those large towns and places where the railways already receive and deliver parcels; just as in the post office, letters are only received and delivered b tween one post office and another. With the delivery beyond a post office district in rural places the post does not trouble itself. The inhabitants make their own arrangements to meet this SECONDARY distribution. The distribution of parcels beyond the radius of the three mile circle in London, and beyond certain limits in the country, would be of this character—SECONDARY DISTRIBUTION.

46. Perhaps a system of pre-payment, and by means of certain stamps, as in the post office, might be desirable, chiefly as tending to simplify accounts; but this, too, is a matter rather of detail than one of principle es sential to the plan, and the consideration of it may be postponed.

47. The policy of adopting such a course as here suggested, remains only to be con sidered.

48. First as regards the immediate interests of railways. The plan may be said, as a whole, not to propose *any positive reduction of charge*, but only to *begin* the charge (a positively higher one in proportion than at present,) at a *lower point*—at a pound weight—and next to adopt an universal principle of charging by WEIGHT only, on the grounds of justice and public convenience.

49. At present the railways get only the heavy small parcels. The average weight of a small parcel on the London and North Western (southern division) is 16 lb. Who carries the smaller parcels? The post office—the carriers—the booksellers, and other private agencies. The instant effect of the measure would be at least to destroy the present illegitimate trade of collecting a great number of small packages, and entering them in bulk; and it would supersede the necessity for exercising any powers of search in parcels, considered obnoxious, by destroying the evasion itself.

50. Unless some such a change is made as that now suggested, and that soon, the railways may prepare themselves to give up a considerable part, if not the whole, of their small parcel business to the post office. Under one aspect, therefore, this plan is only a defensive measure for the protection of railways. But it is not merely defensive; it has intrinsic merits of its own, which would, I believe, bring increased profits and a new class of business to the railways.

51. We may find some of its elements of profit in the following. It would extirpate the smuggling of parcels in bulk by the carriers; it would attract many small parcels now carried by passengers; it would create a transmission of parcels between private individuals, to mention only books, which does not at present exist to any extent; it would bring to the railways the carriage of all the retail country booksellers' separate small parcels throughout the kingdom, rather than a collection of them in large ones, sent through a few publishers; and it would attract separate small parcels, which are now sent in bulk for economy.

52. The question may be asked, but might not the plan affect the profits derived from the conveyance of the mails? Assume, for a moment, that it annihilated them altogether; it would only be the sacrifice of 1½ per cent. (the profit on mails,) to save 7½ (the profit on parcels,) and with the certainty of increasing this 7½.

53 If the railways resolved on this course, they might even offer to carry the mails gratuitously without loss, if it were expedient to do so, which I doubt. But there are no grounds to suppose that the plan would affect the question at all. The weight of the mails have greatly increased, and the railways have not obtained proportionately increased payment. The weight of the mails which the Birmingham line, by its agreement, undertakes to carry, is considerably *under* the actual weight conveyed; and if, on the one hand, the railways should obtain the carriage of small parcels under a pound, on the other hand, the post office is every day getting increased service by the increased number of letters, without paying more for the increased service.

54. Another question asked is, If you have a uniform rate for parcels, why not have one for passengers? A little reflection will show that the cases are not parallel. In the case of a small parcel, it is proved that to carry a pound weight 500 miles, the cost to the railways would be less than 1*d*. To carry a first class passenger on the London and North Western costs 0·831*d*., or above ¾*d*. per mile; a second class passenger costs 0·487*d*., or nearly ½*d*.; a third class passenger costs 0·292*d*., or above ¼*d*.

55. The cost of a single pound weight per single mile is only 0·0017*d*. Now, the insignificancy of this cost, not measurable in coin, constitutes THE *reason* for a uniform rate, whereas the importance of ¾*d*., ½*d*., and ¼*d*. per mile, is THE reason against it. Besides, the chief elements of charge in parcels, receipt, delivery, entry in divers books, etc.—does not apply to passengers at all. Other points of difference will occur to every one, but these are surely sufficient to refute the argument if it be adduced.

56. Besides the profit of the proposed plan, it has a feature of general railway policy which especially recommends it for adoption

at the present time. I believe it would furnish a more effectual argument against government management and interference with railways than anything else. The traffic of small parcels would always afford an example of competition with the post office, useful to both. The delivery would be more frequent, and therefore more convenient to the public; the charge would be cheaper, and therefore more welcome. But to enable the railways to give the public this boon, the present law of liability must be altered. The common law holds the railway responsible for safe delivery, whereas the post office repudiates the liability, even when a letter is especially registered; and a statute sanctions the repudiation! Make the law in both cases alike: let railways adopt a uniform rate for parcels of one pound and upwards, and the public will obtain literally a parcel postage more rapid and cheaper than that offered by the post office. The railways will present an actual illustration of the Marquis of Lansdowne's very correct apophthegm, that in this as in all other instances, the government is always the inferior trader of the two.

57. My advice to railways, therefore, is—Assess the present charges on a uniform system, according to weight;—obtain profit and popularity, or remain passive, and see the whole of the small parcel traffic absorbed by the post office.

58. In conclusion, I would say, that the practical managers of railways will, I am sure, admit that such a plan as that suggested, abounding as it necessarily does, in many intricate details, cannot be expected to be perfect or incapable of improvement. I believe it enunciates *principles* which are sound; and if this be the case, the application of them will not be attended with insurmountable difficulties. H. C.

Columbia Railroad Report.

Continued from page 165.

REPAIR DEPARTMENT.

To the Board of Canal Commissioners of the Commonwealth of Pennsylvania:

GENTLEMEN: As the supervisor of repairs on the Columbia and Philadelphia railway, I respectfully submit the following report and accompanying statements, exhibiting the receipts and expenses, and all other transactions of that department since the 20th of January last, the period when it was placed under my charge, and also for the entire fiscal year commencing December 1, 1846, and ending December 1, 1847.

When I took charge of the road, it was, considering the season, in a tolerably good state of repair. There was, however, a very great deficiency of materials to keep it in that condition, and prepare it for the reception of the increased business of the spring. Immediate measures were taken to supply those deficiencies, but owing to the bad state of the country roads, and the consequent difficulty of transporting timber, etc., in wagons, and the enhanced price of labor and materials of all kinds, it was with much trouble and increased expense that the supplies were obtained.

Within the past year nearly sixty tons of new rails, weighing 53 lbs. to the yard, have been used in repairing the road. This iron was purchased under the directions of the board, from Messrs. Murdock, Leavitt & Co., agents for the Montour works at Danville, at a cost of sixty seven dollars per ton. Nearly eleven thousand cast iron chairs, about twenty thousand feet of mud sills and string pieces, and ten thousand one hundred cross ties have been used in repairing the road.

The cost of repairs during the year has been $70,195 45, exceeding the estimates for the year $2,095 45. This excess was caused partly by the increased price of materials, incident to the general rise of prices in the early part of the season, and partly by extra repairs, hereafter to be mentioned, which were not included in the estimate for the year.—The laborers too, being more than usually interrupted by the almost constant passing of the trains, added considerably to the cost of repairs.

The most important repairs done within the year, have been those to the Coatesville and Valley Creek viaducts. In the repairs of these structures it was found that the estimates fell considerably short of the actual cost. This is not unusual, as in most cases where extensive repairs are to be made, it is found upon removing that which has to be replaced, that more materials and labor are required than were at first contemplated.

For the Coatesville viaduct no estimate was made for the cast iron plates inserted between the joints of the arches, nor for those inserted in the piers upon which the arches rest, nor for the labor of a stone cutter to dress the piers for the reception of the plates. It was found also, that the large timbers inserted in both sides of each pier, upon which the main chords of the viaduct rest, were entirely decayed and required to be removed. These were nearly all replaced with *cast iron blocks* weighing 100 lbs. each. No estimate for this item was made, as its necessity was not foreseen.

At the Valley Creek viaduct some extra timber and iron, not embraced in the estimate, were required for its completion. There was also an additional half pier and trussel work erected under the western span, giving much greater strength to that structure. This latter improvement was made under directions given by the board, while on an official visit over the road in September last.

The whole excess of cost over the estimates for the two structures above named, was more than one thousand dollars.

These viaducts are now in a most excellent and substantial condition, requiring only a few more iron blocks and some calking to render them complete in all respects.

The Mill Creek viaduct, so often reported as wanting a new floor, will be finished, it is confidently expected, within the present winter. It was deferred during the summer only on account of the pressing necessity of placing the Coatesville and Valley Creek viaducts in a safe and permanent condition.

Within the year considerable temporary repairs have been made to the other viaducts, small bridges, water stations, etc., and much more will be required during the ensuing year. The condition and durability of the Schuylkill and Big Conestoga viaducts would be essentially improved and promoted by substituting iron rails for the wooden tracks now in use. I therefore reiterate the hope, so often expressed by all my predecessors, that so desirable an object, (especially in regard to the last named structure) may be speedily accomplished.

The estimates for repairs for the ensuing year, it will be seen, amount to nearly $70,000. These include $8,160 for new *railway* iron, and $7,919 for the repairs of viaducts, small bridges, water stations, roofing depot at Columbia, etc., and may be classed as extraordinary repairs. For the detail of the items constituting the last named sum, I respectfully refer the board to a paper annexed to this report, marked "Appendix, No. 2." Every object therein stated, except those relating to the alteration of the tracks at Columbia, is of much importance, and will require immediate attention; otherwise large sums will have to be expended in renewing what now only needs repairing. As to altering the track at Columbia, the board have all the papers and documents leading to a full understanding of the subject, before them, and to their judgment and decision the matter is respectfully referred.

The quantity of new iron asked for will be barely sufficient to replace that which is entirely worn out. That part of the first section of the road extending from Vine and Broad streets to the Schuylkill viaduct, is now in a condition scarcely passable. This is owing to the constant and heavy trade passing over it from the Reading railroad, and to the number of crossings, sidings, etc., leading from it to the several warehouses, coal yards, quarries, etc., which extend over nearly the entire length of that section. Much new iron therefore is wanted on that portion of the road. The second section, extending from the head of the inclined plane to "White Hall," being but a single track, over which the trains run both ways, will also require a large portion of new rails to put it in good condition. Each of the other sections require more or less new iron to replace that which is worn out, and the increasing business would seem to justify a judicious expenditure for that object—thereby placing the whole line of road in a condition to transport safely all the trade that may be offered.

The propriety of relaying the north track from White Hall to the inclined plane, has been so often pressed upon the attention of the board and the legislature, that it is deemed unnecessary to dwell upon the subject in this report. All the arguments hitherto used in its favor are still applicable. The expense, detentions and annoyances, caused by the necessity of stopping the trains at White Hall, have been felt in a greater degree the present year than formerly, on account of the increased amount of business; and it is earnestly desired that measures will be adopted to remedy the evil.

It is to be hoped that an enlightened legislature will appreciate the necessity of making liberal appropriations for the objects designated, and thus enable to board, through the exercise of a judicious economy, to repair those portions of the works now approaching dilapidation—to renew which will hereafter require the outlay of large amounts of money.

The entire line of road, with the exceptions above noticed, is now in very good order.—Extensive ditching and draining has been done during the fall, and the repairs of the road have been made in a substantial manner—the amount of labor, therefore, necessary during the winter, will be very limited.

For the receipts and expenditures of the rewair department, and the estimates for the ensuing year, I respectfully refer the board to the accompanying tabular statements.

Statement, No. 7, shows the account of the supervisor with the State treasurer.

Statement, No. 8, shows the receipts and expenses of the repair department from Dec. 1, 1846, to Dec. 1, 1847.

Statement, No. 9, shows the detail of expenses of the repair department from Jan. 20 to Dec. 1, 1847.

Statement, No. 10, shows the estimates for repairs for 1848.

Statement, No. 11, shows the account of the supervisor with the state treasurer on account of materials purchased for repairs of road, for 1848, as per act of March 16, 1847,

Statement, No. 12, shows the account of the supervisor with the state treasurer, on account of farm and road bridges, as per act of March 16, 1847.

All which is respectfully submitted.

WM. ENGLISH,
Supt of Repairs Phila. & Col. R. R.
Supervisor's Office,
Parkesburg, Dec. 1, '47.

STATEMENT, No. 7,
Showing the Account of the Supervisor with the State Treasurer.

Amount drawn from the treasurer of the board of canal commissioners, from Jan. 20, to Dec. 1, 1847		$49,400 00
Amount paid for repairs of road and mechanical structures during the same period	39,268 78	
Amount paid for bills due from Dec. 1, 1846, to Jan. 20, 1847	5,815 68	
Amount paid on debts due prior to Dec. 1, 1846	306 48	
Amount paid for new railway iron	4,008 72	
		49,399 66
Due commonwealth		34

STATEMENT, No. 8.
Showing the Receipts and Expenses of the Repair Department, from Dec. 1, 1846, *to Dec.* 1, 1847.

Amount of railway tolls, as per reports of collectors		$268,047 58
Amount paid by W. English from Jan. 20, to Dec. 1, 47.	39,268 78	
Amount paid by W. English on bills due from Dec. 1, 1846, to Jan. 20, 1847	5,815 65	
Amount paid for new railway iron	4,008 72	
Amount due as per statement No. 9	21,102 27	
		70,195 45
Excess of receipts over expenses		197,852 13

STATEMENT, No. 9,
Showing the Detail of Expenses of the Repair Department from Jan. 20, *to Dec.* 1, 1847.

Object of Expenditure.	Am't paid.	Am't due.	Total.
Labor and service road	$26,922 96	$12,094 83	$39,017 79
Smith work	752 87	398 59	1,151 46
Carpenter & wheel wright work	2,767 92	1,120 60	3,888 52
Mudsills and cross ties	1,890 15	2,259 57	4,149 72
Castings	4,130 96	4,302 62	8,433 58
Materials for repair of mech. structure	2,258 20	388 13	2,646 33
Miscellaneous, stationery and printing	283 10	257 43	540 53
Hardware and tools	262 62	280 50	543 12
	39,268 78	21,102 27	60,371 05

STATEMENT, No 10.
Estimated Expenses for Repairs for 1848.

Labor and service on road	$39,500
Smith work	1,100
Carpenter work for repair of mechanical structure	3,500
Lumber for mechanical work	4,900
Castings	6,850
Mudsills and crossties	4,750
Hardware, tools, etc	800
Miscellaneous, stationery and printing	350
Railway iron, 220 tons, at 68 dollars per ton.	8,166
	69,910

STATEMENT, No. 11.
Showing the Account of the Supervisor with the State Treasurer, on account of materials purchased for repairs of road for 1848, *as per act of March* 16, '47.

Amount drawn from the treasurer of the board of canal commissioners, October 18, 1847	$3,445 26
Amount paid as per vouchers filed in auditer general's office	3,445 26

STATEMENT, No. 12.
Showing the Account of the Supervisor with the State Treasurer, on account of farm and road bridges, as per act of March 16, 1847.

Amount drawn from the treasurer of the board of canal commissioners, Sept. 29, 1847	$400 00
Amount paid as per vouchers filed in auditer general's office	401 09
Due supervisor	1 09

APPENDIX, No. 2.
Estimate of extraordinary repairs for 1848.

RAILROAD BRIDGES—(large.)

Bridge.	Mile post.		
Downingtown.	33	repairing bridge and track.	$900
Coatesville	40	6000 lbs. iron and caulking.	475
Pequa	49	repairing bridge and track.	250
Mill creek	61	" "	1,300
Big Conestoga	68	" "	164
Little "	72	weather boarding and labor.	40
Strickler's	71	flooring trussel work	1,000
			4,129

RAILROAD BRIDGES (small.)

Moore's	50	rebuilding	50
Lamen's	73¼	flooring and labor	55
Saner's	75	wall and wood work	100
			205

WATER HOUSES.

Morgan's corner at	14	mile post, repairing	100
Eagle	17	" rebuilding	150
Paoli	21	" roofing	20
North Leaman's.	58	" repairing	20
South "	58	" rebuilding	150
			440

COLUMBIA DEPOT.

Columbia depot, roofing, painting, etc	1,600
" house for lathe & boring mill	200
	1,800

MISCELLANEOUS.

Morgan's corner, renewing siding and labor	50
Columbia, altering track on Front street	400
" " at the slip	500
	950

FARM BRIDGES.

Bowman's	at 2	mile post,	renewing	95
Buck	10	"	"	65
Fulton's	44	"	"	60
Murphy's.	45	"	"	75
Gap	52	"	trussel work, etc	50
Leaman's.	58	"	new floor and labor	50
				395

Total am't for extraordinary repairs for 1848. 7,919

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T.
Kensington, Philadelphia Co.,
March 12, 1848. 11tf

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v11y

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames,* and on the line of the *Norwich and Worcester Railroad,* established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

DAVIS, BROOKS & CO., NEW YORK, offer for sale:
150 tons Railroad Iron, 60 pounds per lineal yard, of an approved pattern, and in long bars; also,
500 tons, ditto, expected to arrive in the month of April next. 6t8

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sangnine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

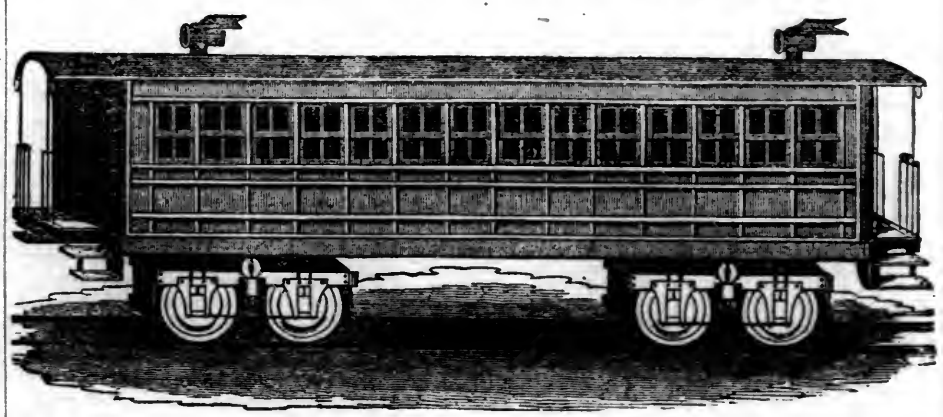
Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

GEO. W. TOWNS, *Governor.*
WM. L. MITCHELL, *Chief Engineer.*
Atlanta, Ga., January 24, 1848. [7t6]

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

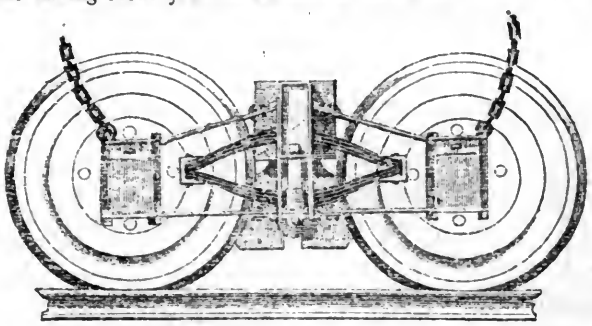
SAM'L KIMBER & CO.,
Willow Street Wharf,
1tu Philadelphia, Pa.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartsbrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

RAY'S EQUALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed.] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH,
ly19 Sup't Motive Power

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2¾	5	2	6½	9	4	13½	1-2	7½
16	2¾	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

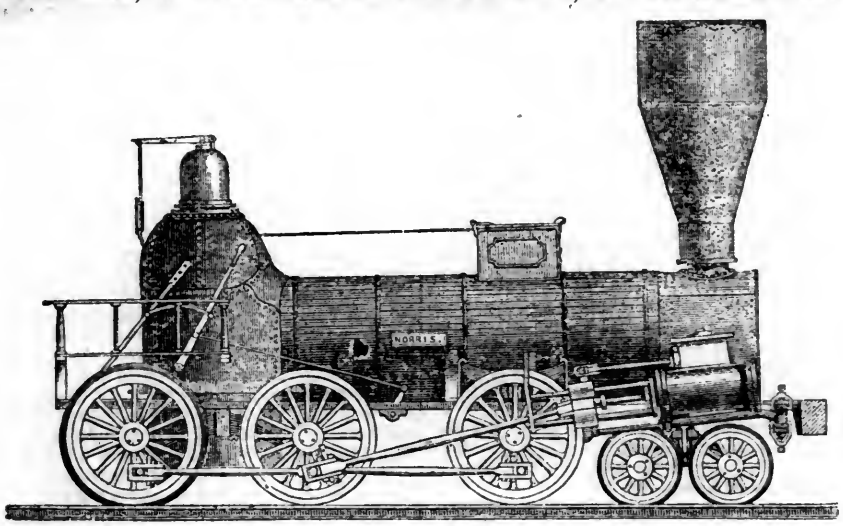
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

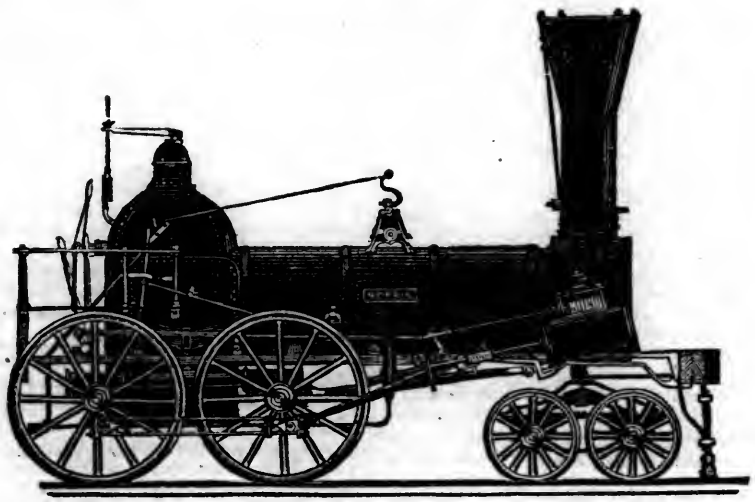
James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

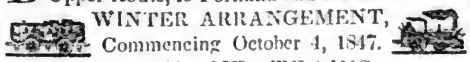
*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.



WINTER ARRANGEMENT,
Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

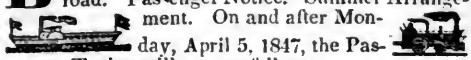
Leave Boston at 8½ A M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:



Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

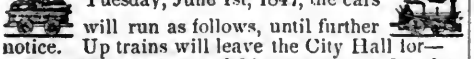
Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—



Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechaniesville and Croton Falls, 7 a.m. and 4 p.m.

Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

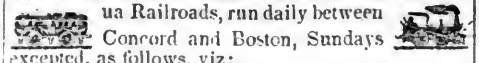
Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechaniesville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between



Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

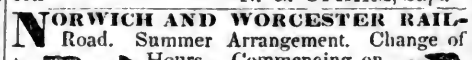
It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on



Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

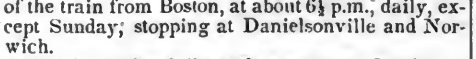
New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1v J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as



follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

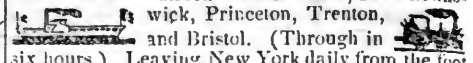
On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
5tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton,



and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.
First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

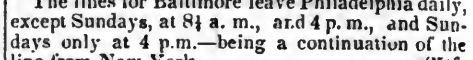
Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:



Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Bratleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5¼ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1¼ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad.....10
Through tickets to Harrisburg or Gettysburg..3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally...	50 cts. per hundred.
On measurement goods.....	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery.....	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

c25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·10 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

Winter Arrangement.

Philadelphia for Baltimore...8½ a.m. and 4 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 4 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.–Philadelphia to Wilmington, 8½ a.m., *mail*, 1½ p.m., 4 p.m., *mail*. From Wilmington to Philadelphia, 8 a.m., 1 p.m., *mail*, 6 p.m., 12½ a.m., *night mail*.

I. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., July 15, 1847. 41*1y

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS FOR PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

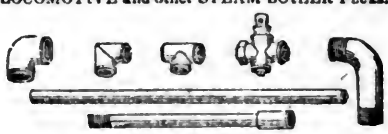
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

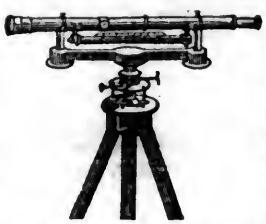
PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

LAP—WELDED WROUGHT IRON TUBES FOR TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER, and ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 13] SATURDAY, MARCH 25, 1848. [WHOLE No. 614, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, March 25, 1848.

Baltimore and Ohio Railroad.--Increased Facilities for Travel.

No better indication of the increase of travel, on the great lines of railroad, need be desired than will be found in the increase of daily trains upon them. It will be seen by their advertisement in this days' paper that this company has decided upon running *two* daily trains, each way hereafter, instead of one as heretofore. This will be very acceptable to business men, who have been so often compelled to remain over a whole day when a little too late for the morning line. By this arrangement they may transact business during the day, take a comfortable night in the cars to Cumberland, and then cross the mountain by daylight in the stages.

NOTICE! GREAT CENTRAL ROUTE, via Cumberland and Baltimore.—To facilitate further the travel upon this route, the Baltimore and Ohio Railroad Company, in conjunction with the lines of stages upon the National road, will commence on Monday, the 27th of March, to run a SECOND DAILY TRAIN OF CARS and LINE OF COACHES over the route, leaving Baltimore at 4 P. M., and Cumberland at 7½ P. M., on every day of the week.

The coaches upon the National road will henceforth leave Wheeling regularly twice a day at 6 A. M. and 6 P. M., and Cumberland at the same hours, connecting regularly each way, with the morning and evening boats at Brownsville. By this arrangement, passengers arriving at Baltimore from Philadelphia at 2 P. M., may proceed westward, after a delay of but two hours, instead of lying over until next morning. Passengers coming eastward, and arriving at Wheeling, or Pittsburg, or Cumberland, too late either for the morning or evening line, will be detained but 12 hours at most, instead of 24, as heretofore. Great additional despatch will thus be given to the travel upon this route, already the most expeditious between the east and west, and the passenger may always make his choice of the day or night for passing over either the railroad or the turnpike section of the route.

By order, WILLIAM S. WOODSIDE,
2t13 *Master of Transportation, Baltimore and Ohio Railroad.*

Two daily trains are also to be run each way, after the 1st of April, on the Reading road, which will add greatly to the convenience of those engaged in the coal and other business in that region. These increased facilities were much needed on both these lines, and we are much mistaken if they do not add materially to the income of the companies.

Baltimore and Susquehanna Railroad.
Extension to Harrisburg.

Efforts are now being made to construct a railroad from York to Harrisburg, and thus connect the Baltimore and Susquehanna road with the Cumberland Valley road, and the Central road to Pittsburg. We consider this a very important link, as it will not only connect with the lines west, but it will also soon be connected with another road up the valley of the Susquehannah, into New York, and there connect with all the New York, east and west, roads. A connection very important to Baltimore, and especially to the Baltimore and Susquehannah railroad. We shall give, in our next, an able communication, or report, on this subject, by I. R. Trimble, Esq., to the directors of the Baltimore and Susquehannah railroad company. It shows, in a very forcible manner, the importance, to Baltimore, of this short and easily made road.

We shall also give, in connection with the above, the last annual report of the Baltimore and Susquehannah railroad.

Locomotive Shops.

The rapidly increasing railroads of the country give rise to new establishments for the manufacture of machinery.

Since our visit to Baltimore in June last, the Messrs. Denmead have erected extensive shops and foundry, on ——— street, near the Penitentiary, and are preparing for the manufacture of locomotives on quite a large scale.

We understand, also, that an extensive establishment is to be commenced immediately in Schenectady, between the railroad and canal—on the site of the old college, by the Messrs. Norris, of Philadelphia—where locomotives can be sent in any direction, either by water or by railroad. An other establishment still, is to be brought into use during the current year, at Cambridgeport, Mass., by Messrs. Davenport & Bridges, the celebrated car builders. Thus it seems that a large increase of capital is to be applied to the manufacture of locomotives and railroad machinery.

Speaking of locomotives, reminds us of the superior working of those in use on the Baltimore and Susquehannah railroad; especially those having the cylinders beneath the boiler. They were manufactured in the shops of the company, under the charge of Mr. Millholland.

Little Miami Railroad, Ohio.--Annual Report for 1847.

This report will be found in this number. It shows an improved condition of the work—a large increased income, and a certainty of a much larger increase the current year, in consequence of the completion and connection *with it*, of the Mad river road, by which there will be railroad communication between Cincinnati and Lake Erie at Sandusky. There will also soon be a railroad from Xenia to Columbus, by which the business of this road must be considerably increased.

This road is 84 miles long, from Cincinnati to Springfield, and was first opened for use a short distance from Cincinnati, in 1839, having been constructed on what was formerly deemed the cheap plan—that is with a light flat rail—it of course now needs to be rebuilt with a heavy rail, which, it will be seen, they are doing in the most substantial manner.

By referring to the report for 1846, in the Railroad Journal for January 9th, 1847, it will be seen that the—

Gross earnings were, for that year	$116,052
The *expenses*	64,766
Net earnings for 1846	51,286
For 1847 the gross earnings were	221,139
Gross expenses	112,265
Net earnings	108,874

Or more than double; and we feel quite safe in predicting that the net earnings will this year exceed *two hundred thousand* dollars.

It is to be regretted that the legislature did not at the session of 1847, allow the company to increase their stock and loans, to enable them to rebuild the road as rapidly as required, and we hope it has been done at the late session, which has just adjourned.

From the treasurer's report it will be seen that the city of Cincinnati has contributed $300,000 in subscription to stock and loans.

The description of the new track, as given in the superintendent's report, shows that it will be one of the *best* in the country; and that their depots are on a large scale, and most of them permanent structures.

We congratulate those few *persevering* men, who have *almost* carried this work for years *on their shoulders*, upon the bright prospect of ample success, which they have now in full view before them, and hope it may stimulate those intercsted in other works in the state, especially from Columbus eastward to the Ohio river, and north-eastward *to*, and *along* the lake.

The First American Cotton Factory.

"At Pawtucket, Rhode Island, is the old mill of Samuel Slater, Esq., being the first building erected in America for the manufacture of cotton goods. It is a venerable wood built structure, two stories in height, bearing numerous evidences of its antiquity, and we believe was erected in 1793. Two spinning frames, the first in the mill, are still there, and are decided curiosities in their way. It is almost incredible to believe that this old building, time-battered and weather-browned, was the first to spread its sheltering roof over the young pupil of Arkwright, and that those dwarf frames, rusty and mildewed with inactivity, are the pioneer machines of that immense branch of our national industry—the manufacture of cotton goods. Mr. Slater, the father of American cotton manufactures, was so closely watched at the English custom house that he could not smuggle over a drawing or pattern. He had, however, acquired a full knowledge of the Arkwright principle of spinning, and from recollection, and with his own hands, made three cards and twenty-two spindles, and put them in motion in the building of a clothier, by the water wheel of an old fulling mill. Fifty-four years have since elapsed, and the business has since increased beyond all precedent in the history of manufactures. Our rivers and wild waterfalls that then flowed and bloomed in solitude, are now propelling thousands of mill wheels, and millions of shuttles and spindles. In the business hundreds of fortunes have been made — thousands of our citizens earn a subsistence, and find constant employment, while millions are clothed in different portions of the globe. A wonderful revolution has that old mill produced on the shores of the new world."

We find the preceding account of the *first* American cotton factory in the Scientific American of 4th inst., and give it a place in the Journal for the purpose of calling attention to the *change* in our *condition, pursuits*, and views, which have occurred *since*, and *in consequence of*, the introduction of the cotton manufacture into this country; and then to point to the future, and ask the contemplation of what the ensuing 54 years will produce—in consequence of the introduction of *railroads*—in addition to the present advanced state of the manufacturing interests of the country! He must be a bold man who attempts to describe the reality, should no unexpected reverse overtake us.

Ohio and Pennsylvania Railroad.

The Pittsburg Gazette says that a "very efficient meeting," of those favorable to the project of the Pittsburg and Ohio railroad company, was held at Pittsburg on Wednesday evening. Several gentlemen were present from Ohio, and gave valuable explanations in relation to the charter, which has been granted by that State. The Gazette says that the charter is liberal and all that could be wished. Resolutions were unanimously adopted approving it—requesting the committee named therein to give notice for a meeting at the earliest possible day, for the purpose of organizing under the charter. That books for the subscription of stock be opened at Masillon, Wooster, Canton, New Lisbon, Beaver, and Pittsburg. Also, urging the immediate co-operation of the Pennsylvania Legislature.

We hope the friends of a railroad connection, between Pittsburg and the interior of Ohio, will not too much divide their forces, and *thus be conquered*.

Rights of Railroad Companies and Passengers.

We find in the Ledger of 13th inst., the following account of a trial, in relation to the *rights* of railroad companies to establish their own regulations, in requiring passengers to exhibit their tickets to the conductor, which was recently had in the Essex (N.J.) Circuit court.

It seems that "a Methodist clergyman named Graves brought a suit for damages for trespass against Mr. Gamble, the agent of the New Jersey railroad company. Mr. Graves was a passenger in the cars on the 24th of March last. Gamble came through the cars for the tickets, when plaintiff paid him 75 cents; defendant asked him if he had a commutation ticket, and requested him to show it; some words ensued, and defendant said if he did not show his ticket, he would be obliged to put him out of the cars, which subsequently he did on a second refusal to show his ticket. The court in its charge took the ground that the company must carry passengers for hire, but have a right to establish reasonable regulation on the road. The case is analagous to that of an innkeeper, who is bound, it is true, to entertain all who apply for entertainment at his house; but who is always entitled to lay down reasonable and proper rules to be observed in it; and he who enters as a guest, enters subject to those rules; and his right to remain lasts no longer than his compliance with them. The court further said,

"The exercise of a clearly legal right by abuse may amount to a trespass. If the passenger is wantonly insulted, or his feelings outraged—if undue violence is used in removing him from the cars—or if an attempt be made to remove him by force before requesting him to depart; if he be removed from the cars in an unfrequented spot, far from human habitation, in the midst of a tempest, in the darkness of midnight—in short, if any wanton act of aggression be committed on the rights of the passenger; if there be any exercise of authority or power beyond what is clearly required by the necessity of the case, to protect the just rights of the company, they become the aggressors, and are answerable in damages.

"The jury took the same view of the case and the facts, and returned a verdict in favor of the agent, Mr. Gamble."

We do not quite understand why the question of "commutation ticket" came up after the clergyman had paid 75 cents.

The position of a railroad conductor is one of great difficulty, and requires a man of firmness and discretion—and he, like the "*general delivery clerk*" at the post office, should have an exceedingly *amiable* disposition, to get along smoothly, and avoid giving and taking offence, as he is sure to meet with many very *crooked sticks* in the discharge of his duties.

Rates of Tolls on Railroads.

The Miners' Journal says that the following rates of toll have been adopted on the different railroads in Schuylkill county: Mine Hill and Schuylkill Haven railroad, 2¼ cents per ton; Schuylkill Valley railroad, 3 cents per ton; Mill Creek railroad, 4 cents per ton; Mount Carbon railroad, 6 to 6¼ cts. per ton; Little Schuylkill railroad, a fraction less than 3 cents per ton. They are graduated according to the scale adopted upon the canal, and were to take effect on the 13th inst. They leave a margin of 85, 90 and 95 cents for freight on canal, and the expenses of transportation from the cars into the boats at the landings in this region. Should these rates be adhered to throughout the season, the Journal says, the canal will receive a fair share of the trade, probably quite as much as she can accommodate with the present supply of boats and cars. The Schuylkill Navigation company have made the necessary arrangements to avoid the delay which frequently occurred last year, in towing boats from the Schuylkill to New York, near the Delaware and Raritan canal.

Cincinnati and Wabash Trade.

The LaFayette Journal says, we are authorised to state, that the board of public works of Ohio, in conjunction with the trustees of the Wabash and Erie canal, have made a material change in the charges upon this trade. On merchandise the reduction of toll from Cincinnati to LaFayette, amounts to sixteen per cent., and on groceries, such as sugar, molasses, coffee, etc., the reduction amounts to 42 per cent. With these charges, it is supposed that groceries may be brought from Cincinnati to LaFayette for 50 cents per hundred, including toll and freight.—It is the intention of forwarders, engaged in this trade, to put on an additional number of boats, and a large increase in this branch of canal transportation is anticipated.

On the Toledo trade there is no great change.—Merchandise will hereafter pay an uniform toll of 20 mills per mile per 1000 lbs., throughout the canal. On lumber, shingles, shingle bolts, etc., the toll has been reduced near 25 per cent. Some reduction has been made on passengers, and their furniture, with the view particularly of favoring emigration. On produce there is no change.

With a view further to promote the interests of the trade with Cincinnati, we understand that an earlier opening of the canals, than has heretofore been customary, will be aimed at.

American Lakes and their Commerce in '47.

We have not yet received a copy of the late reports of the Topographical Bureau at Washington, and therefore copy the following from the Commercial list of this city:

"Late reports of the Topographical Boreau at Washington, contain the following particulars of the size, depth, and width of the great lakes in this country. The commerce of these inland seas already exceeds that of the Mediterranean. What will they amount to fifty years hence?

"The great lakes of our country, which may justly be considered inland seas, and to which the inland commerce described in this report relates, are the following:—Champlain, Ontario, Erie, St. Clair, Huron, Michigan, and Superior. These lakes are of great depth, as well as of great extent. The entire line of lake coasts embraces about 5,000 miles, 2,000 miles of which constitute the coast of the foreign power.

Lake Champlain is	105 miles long.
Its greatest width	12 miles.
Its average width	8 miles.
Lake Ontario is	108 miles long.
Its greatest width	52 miles.
Its average width	40 miles.
Lake Erie is	240 miles long.
Its greatest width	57 miles.
Its average width	38 miles.
Lake St. Clair is	18 miles long.
Its greatest width	25 miles.
Its average width	12 miles.
Lake Huron is	270 miles long.
Its greatest width, (not including the extensive bay of Georgian, itself 120 miles long, and averaging 45 wide,) is	105 miles.
Its average width	70 miles.
Lake Michigan is	340 miles long.
Its greatest width	83 miles.
Its average width	58 miles.
Lake Superior is	420 miles long.
Its greatest width	135 miles.
Its average width	100 miles.

"These lakes may be considered as connected

throughout their whole extent. Lake Champlain connects with Lake Ontario by means of the river Richelieu; the lock and dam navigation of St. Lawrence river, the Ottawa river, the Rideau canal through Canada, and the Champlain and Erie canals of New York. Lake Ontario is connected with Lake Erie by means of the Welland canal through Canada, and by means of the Oswego and Erie canals through the State of New York. Lake Erie is connected with Lake St. Clair by the deep and navigable strait of Detroit, 25 miles long. Lake St. Clair is connected with Lake Huron by the deep and navigable strait of St. Clair, 32 miles long. Lake Huron is connected with Lake Michigan by the deep and wide strait of Mackinaw, and with Lake Superior by the strait of St. Mary's, 46 miles long. This strait is navigable throughout, except for about one mile of its length immediately adjacent to Lake Superior, where, from rocks and the extreme rapidity of the current, navigation ceases. These difficulties can, however, be easily surmounted by a canal of not more than a mile long, with locks to overcome a fall of about 21 feet. The only additional obstruction to this immense extent of inland navigation is in St. Clair lake, on approaching the St. Clair strait. This obstruction consists of an extensive bar, but not of great width, over which not more than seven feet water, in depressed conditions of the lakes, can be counted upon. From an examination of this shoal, it has been found to consist of an indurated marl, leaving but little cause of doubt that if a channel were once dredged through, it would remain a durable improvement.

"Lake Champlain lies exclusively (except the strait near Rouse's point,) within the States of Vermont and New York, the former occupying its eastern, and the latter its western margin. It is not considered a dangerous lake to navigate, and the principal protection which its commerce requires, is in form of breakwaters, to shelter its open harbors."

And the commerce of these lakes for 1817 was estimated at $120,000,000! What will it be half a century hence?

Mixed Gauge for Railroads.

The gauge question has not yet been settled in England, though it has attracted much attention, and caused much discussion. Mr. Stephenson and Mr. Brunel each made reports on their favorite gauge—which were published by parliament—and Mr. A. C. Morton, engineer of the railroads from Portland to Montreal, made an able report in favor of a wider gauge than is in general use in this country—which may be found in the volume of this Journal for 1817.

There appears now to be an effort, by Mr. Brunel, to introduce a *mixed* gauge on some of the lines in England, of which we find the following description, and illustration, by "An Engineer," in the Railway Chronicle for February 5th. The writer says:

I had a few days at my disposal last week, and have read with interest Mr. Stephenson's and Mr. Brunel's reports on a mixed gauge as a remedy for a break of gauge, I determined to bestow my leasure in visiting the only existing example we have of the mixed gauge, namely, the line between Cheltenham and Gloucester. This piece of line has been laid down, it appears, under Mr. Brunel's own directions, Mr. Stephenson having consented to Mr. Brunel's wishes in respect to the details connected with the mixture of the gauges being in all respects consulted.

Under the impression that the result of my observations may not be uninteresting to engineers, I beg to send you the following memoranda, which I made on the spot.

Before proceeding, I may state, that from Gloucester southwards to Standish, a distance of about seven miles, there is a broad gauge railway, used in common by the Great Western railway company, for the traffic between Gloucester and Cheltenham via Swindon to London, and by the Bristol and Birmingham section of the Midland company's lines, for their traffic from Gloucester to Bristol—the Bristol and Swindon lines (both on the broad gauge) diverging at Standish.

From Gloucester, northwards, the narrow gauge of the Midland company proceeds to Birmingham; and between Gloucester and Cheltenham, in addition to the narrow gauge rails, the Great Western have laid a third rail on each track, to allow of broad gauge trains running to Cheltenham, where they have a separate station from the Midland company. Between Gloucester and Cheltenham there is thus the first example of a mixed gauge railway.

On arriving at about three-quarters of a mile from the Gloucester station by an express train from London, I found that our train was turned by a switch (meeting the train) across the *up** line of the Bristol and Gloucester railway. When we had gone about 200 yards further, we crossed a turntable on the main line, and pulled up. As we crossed this turntable, I perceived with some dismay an engine and two carriages approaching us at a distance of about 50 yards, upon a line of railway which crossed the turntable which we had just passed over at right angles to the line on which we were running. This engine and train having stopped, (fortunately in time, or of course it would have cut our train in two) several passengers got out of their carriages and made for our train, one or two with luggage in their hands—an annoying proceeding to them, as it was raining hard at the time, and the platform is uncovered. Two carriages of our train were then detached by means of the turntable which has been mentioned, and were taken back by the engine on the "spur" line, as it may be termed, to Gloucester, while we proceeded to Cheltenham.

All passengers from Gloucester to Cheltenham, and from Cheltenham to Gloucester, a distance of seven miles, by any of the thro' broad gauge trains, have thus, it will be seen, to change their carriages on an exposed platform a mile from Gloucester.

This very peculiar, and as it appears to me, objectionable mode of working the Gloucester traffic as a branch traffic, with a separate engine and train for the branch, such branch being less than one mile long, and cutting the main line at right angles (the junction being effected by a turntable) is the result of the lines of two different gauges meeting at Gloucester in the station as in a *cul de sac*, so that the station lies off the road altogether, and can only be reached by a branch; which is itself the consequence of the lines north of Gloucester being of one gauge, and those south of Gloucester being of another gauge; for which reason a necessity arises of bringing the broad gauge rails parallel to the narrow gauge rails, for the purposes of transhipment.

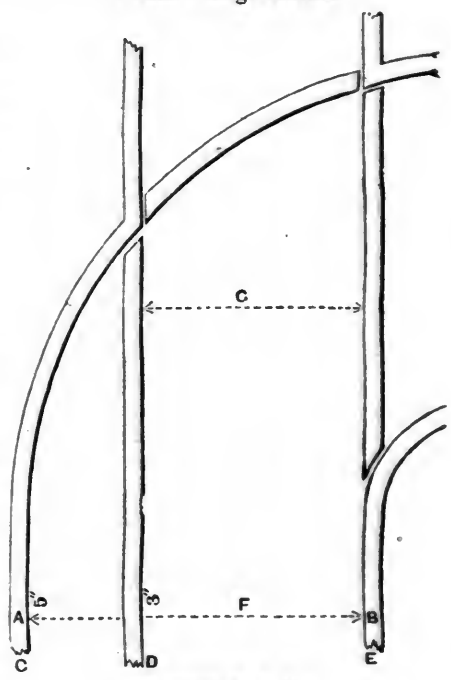
* By the term "up line," I refer to that line of rails on which the trains from Cheltenham to London or Bristol run. The "down line" will consequently be that line on which the trains from London and Bristol run.

Having parted with our Gloucester carriages, and picked up the Gloucester branch traffic, as described, we proceeded to the point where the broad and narrow gauges become mingled, which is at a place called Barnwood. In order to get on to the down track of the Bristol and Birmingham narrow gauge line, we here crossed the up line of that railway again, as we had within a distance of a quarter of a mile already done once before. We were now on the mixed gauge: on getting on to it we got a sharp shake, and the road itself between this and the point where the broad gauge rails turn off to the Cheltenham station, was somewhat rough, but not particularly so.

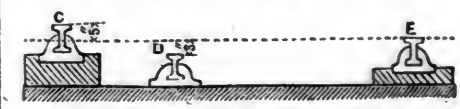
The road is adapted to the broad gauge by the laying of an additional rail on each track, fastened to the sleepers, which are new and longer than the ordinary sleepers for a narrow gauge track. These additional rails are put on the outside of the narrow gauge outside rails, so that the common rail is the *inside* rail of each line, and not the outside rail as suggested by Mr. Brunel in his report on the Oxford and Rugby line.

On approaching Cheltenham, we were "slowed," and turned off to the broad gauge Cheltenham station, which is distinct from the narrow gauge station, crossing here again and for the third time in a distance of seven miles, the up line of the Bristol and Birmingham railway.

Broad Gauge Station.



Section at A B.



The turnoff is effected, not by means of a switch in the usual form, but by cutting a notch in the common rail, and so making a fixed point, (meeting all the trains of both gauges) and then by raising the level of the

broad gauge outer rail, C, five inches above the level of such fixed point, which is the same as that of B, while the level of the narrow gauge outer rail, D, is kept three inches below such fixed point.

The broad gauge carriages are thus canted over so as to run on one side of the fixed point, while the narrow gauge carriages are canted over in the opposite direction, so as to take the other side of the fixed point. This, it will be seen, is merely substituting a fixed point meeting the trains for a half switch; it does not, I confess, appear, to me to be either an improvement, or calculated to remove, in the slightest degree, the complexities inherent in a mixture of gauges.

Near Barnwood, where the broad gauge rails turn off towards Standish, avoiding the Gloucester station, there are broad gauge lines laid down in a manner which cannot be explained without a diagram, to enable broad gauge short trains from Cheltenham, (that is to say, trains proceeding no further than Gloucester) to run straight into Gloucester. The broad gauge trains running into Gloucester, however, by means of these lines, must cross the up line of the Bristol and Gloucester line once, the spur line (see *ante*) once, and then both the up and down lines of the Birmingham and Gloucester—a very hazardous course.

The additional switches, fixed points, over-crossing points, and crossing points occasioned by the intersection and mixture of the gauges between Gloucester and Cheltenham, I roughly counted as follows:

Four fixed points (two meeting the trains). five pairs of double tongue switch (three meeting the trains), two half switches, nineteen pairs of over-crossing points, twenty five crossing points.

The main lines of rails intersect or run completely across each other (in addition to the intersections of single rails at turn offs) *no less than ten times.*

The necessary result of these fearful complexities is, that the speed has to be reduced to a walking pace three times between Gloucester and Cheltenham—a distance of seven miles; and that the last mile into Gloucester has to be performed at little above a walking pace. A complexity of signals is also requisite, altogether exceeding belief, which complexity is increased by two systems of signalling obtaining on the two gauges. Strange as it may seem, I actually stood in one spot near Gloucester, and counted ten different signal posts of several forms.

On reviewing the double gauge line between Cheltenham and Gloucester, I could not avoid being struck by the fact, that in consequence of the mixture of gauges, there are separate stations at each town; that two sets of stock are provided, two establishments of servants are kept up, and a double number of trains are run, which are precisely the arrangements which Mr. Stephenson in his report on the double gauge declared would be necessary in order to obtain any use from the double gauge, and which arrangements are such as he estimates cost an average sum equivalent to $18,000 per mile, in addition to the ordinary cost of even a broad gauge railway. The mode of laying and working the gauges, which Mr. Brunel suggests in his report, namely, by making the outside rails common to both gauges, which he advocated as the simplest mode of uniting the gauges, and as "admitting, (in his words,) without any complication whatever, of the running of all the trains of both gauges into the same sidings, and up to the same passenger platforms," has not, it appears, been attempted to be exemplified between Gloucester and Cheltenham, neither has the attempt been made to run broad and narrowgauge carriages in the same train, which the advocates of a mixed gauge have talked of.

So that, so far as the experiment of working a mixed gauge between Cheltenham and Gloucester proves anything, it would appear to verify precisely the predictions of Mr. Stephenson.

The cost of laying this piece of mixed gauge railway between Gloucester and Cheltenham—from the enormous space occupied at the stations, the length of the sidings and the numerous intersections of the rails, the reduplication of stations, and everything else—must have been prodigious; and the cost of working, with its duplicate establishments of servants, engines, carriages, etc., must be very great.

There are no less than twenty six passenger trains running each way, for the accommodation of the no very enormous traffic between Gloucester and Cheltenham; eight trains a day each way would certainly afford ample accommodation for this traffic. I was amused to hear that goods were carted from one broad gauge station (that of the Bristol and Gloucester line) at Gloucester, to the other broad gauge station (that of the Great Western line) also at Gloucester, not fifty yards distant from each other, as the crow flies, but owing to the complexity of lines attending the mixture of the gauges, nearly *two miles* distant by railway, for which reason it is found easier to cart the goods across than to shunt the heavy trucks of the broad gauge from station to station. The road actually beats the railway in this instatce.

The general conclusion to which I came, from my visit, was, that the mixture of gauges resulted in a form of railway so unsafe, so intricate and broken up, and so extravagant in point of expense, as to render it altgether inadmissible as a practical arrangement, and ruinous to that simplicity on which the utility and safety of railways depend.

AN ENGINEER.

Railway Accidents.

An accident recently occurred on the London and South Western railway, which it seems to us could not have occurred if the men on the luggage train had been attending to their duty. We give the details in order to give the remarks of MR. LOCKE, engineer in chief, in relation to the enforcement of *rules.*

The following facts came out before the coroner's jury, viz:

The 3 30 p. m. train from Southampton was brought to a stand-still near Frimley, about a mile and a half on the Southampton side of Woking, from some disarrangement of the machinery of the engine. The engine driver in charge of the train, immediately proceeded to repair the defect, and in order to prevent the possibility of accident, the second guard was sent back with a red light to stay the progress of the usual night luggage train from Southampton. This officer had been gone twenty minutes, when the expected train was heard approaching, and in order to insure safety, another person was sent back with a red lamp. This person had scarcely cleared the passenger train, when the luggage train ran into it. Markland, the engine driver, who was just putting the finishing stroke to the repairs of his engine—the first guard holding his lamp to him at the time—was crushed to death beneath, and the brakesman and the stoker of the luggage train were injured, the former more especially. A portion of the passenger train was thrown off the line. Some of the passengers suffered from contusions. One gentleman, the Rev. Mr. Hutchins, of Atherstone, Stoke upon Trent, had his leg broken. The authorities on the spot were as active and attentive as possible to those hurt. The trains were subsequently brought up to town by a pilot engine, sent from Guildford to ascertain the cause of delay to the passenger train.

Jan. 17.—At the inquest, at Woking, on the body of Markland, the company's officers were in attendance to give evidence, and to watch the case. The coroner required the attendance of the two servants in custody.—He should take such evidence as was now tendered, and should adjourn the inquiry.—Mr. D. Nicholson, surveyor of Wandsworth, Mr. Beham, and Mr. W. Young, assistant superintendent, who were travelling by the train in question, gave evidence corroborative of the facts above stated. According to the statement of Mr. W. Young, the gaurd, Mr. Brownsmith, did not use the detonating signals provided; but in answer to this, it was shown that the night was clear, and that as the red lights could be well seen, that there was no occasion for the use of the detonators. The inquest was adjourned till the 20th.

Jan. 20.—The inquest was resumed at Woking, in the absence of the two prisoners.—Mr. C. S. Ward was examined. After detailing the cause of the stoppage of the passenger train, he said: On receiving directions from Mr. Young to aid in stopping the advancing goods train, I ran on some 200 or 300 yards in the direction of the approaching train, which was then some distance off. Felt no alarm as I was told somebody had been sent back to stop the goods train. I distinctly saw the white light of the coming train at a distance from me of I should say, about two miles. As the train approached, perceiving that the steam was not shut of, I took off my hat and waved it. On the engine passing me I saw two men. One was standing up at a greater elevation than usual on that part of the engine where the fire is. The other was standing on the usual place upon the engine. I shouted to them, and they shouted in return. I saw by the rate they were going, that they must run into the passenger train, and I turn-

ed my head the other way to avoid seeing the collision. I saw the red light then advancing at a considerable distance behind me. I could not distinguish the person of the guard who was carrying it, but I distinctly saw the light from his lamp. I suppose that was the guard who had been sent back to stop the advancing train. Mr. C. Stovin, the general manager of traffic, handed in and interpreted the rules of the company providing for accidents. The guards are so placed that they can see both forward and backward, and it is their duty to keep a good lookout and observe signals. No plan for keeping up a communication between the guards and the drivers has yet been devised that would work. Such a communication would be very desirable. There is now a bell used, which is found to be the best means of communicating with the driver.—There is a rule, (65) which requires the driver to keep a sharp lookout forward, and he must attend to any signal that may be made, whether he understand it or not; and the fireman is also bound to keep a sharp lookout, both before and behind. The guards' boxes in the luggage train are not so constructed as to enable them to look out without putting their heads out of the box, which they are expected to do from time to time. The boxes on the passenger train are elevated, and so made that the guards can look out in all directions. Considered the detonating signals should always be used; and for this reason had given Brownsmith into custody. Mr. Young repeated his former evidence. Mr Gooch, superintendent of the locomotive department, produced a time table. The luggage train ought to have been going at the rate of about 20 miles an hour; it would thus take them about ten minutes to traverse the embankment. It was passed by the passenger train at Winchfield. The passenger train was due at Woking a 8 p.m. on Friday evening. The goods train left Southampton at 4 10 p.m., and was due at Woking at 8 20 p.m. On dark clear nights I have seen the red lights at a distance of from five to six miles. Under all ordinary circumstances, 600 yards would be sufficient to bring a train to a stand still, even an express train. The gradient on the embankment is partly 1 in 300, and partly 1 in 333. In foggy weather or after slight rains the rails become greasy, and it is more difficult to stop a train. The accident that caused the stoppage of the engine of the passenger train, was one to which all engines are liable. The name of the engine was the "Mazeppa," and it was built in the company's own workshops, under my superintendence, about 15 months ago. I examined it about a week before the accident, and it was then in a perfect state of repair. The injury done was the breaking of the cotter, and the object of the deceased in going underneath the engine was to take away the two pieces of iron which it coupled. It might have occurred by a nut working off. Jones has been in the company's service 12 months, and Fleming 20 months. I had strong testimonials from two other railway companies with Jones; he had been a good and steady servant, and sober. Jones has been an engineman from nine to ten months; before that he was a stoker. Both he and Fleming were considered steady and trustworthy men. W. Bolt, engine fitter, stated that the locomotives of both trains were in perfect repair at the time of the accident.

The editor of the Chronicle says, "In the course of the evidence on the inquest on the recent South Western accident, a good deal of interesting professional information has been elicited, which will be found in its proper place. But there were some observations made by the engineer in chief, having a wider application; made in so excellent and kind a spirit, and exhibiting so much sound policy in reference to railway accidents and railway management in general, that we transpose them for more immediate comment. The true circumstances of the accident and its explanation are quite evident to one familiar with the working of railways. All the men appear to have been good men, and to have done their duty in their understanding of it. There remains one circumstance to be explained—how the driver and fireman of the luggage train did not see the red lamp which met them three-quarters of a mile from the scene of the disaster. It is plain they were not on the lookout ahead at the time of passing the guard who had the lamp. They did not see the light. Why? has not been explained, but will perhaps. On this point we are unwilling to anticipate the decision of the jury. Meanwhile there remains this important practical consideration applicable on all railways, and already applied on many—Cowper's signals, of which we early gave favorable notices in this journal, should be in the cartouche-box of every guard. Let them be no longer called 'fog signals.' *Torpedos* would be a capital name, as suggested in our correspondence. Let the rule be made universal on all railways, that the moment a break down or stoppage takes place, the guard, or person sent back to stop a following train, shall at every 300 paces place a torpedo on the rails. This will extend to a mile, if he walk on till he has exhausted the half-dozen with which he is supplied. No better safeguard can be provided against the repetition of such a disaster.

"The evidence to which we have already adverted, as exhibiting the true spirit of railway management as distinguished from the red tape rotine with which government officials would fetter us, is given by Mr. Locke in the following words:

"'Railway servants are not so strict as soldiers, in following their directions. That is a fault, perhaps, but for my own part, I should seldom feel inclined to blame men who had exercised a reasonable discretion, although the result might not be so favorable as they had anticipated. I have seen and watched the progress of railways from their infancy, and I am convinced that the exercise of a little discretion on the part of railway servants has saved the public much trouble and inconvenience. The coroner said, with respect to what Mr. Locke had stated relative to the exercise of a discretion on the part of railway servants, he remembered a case which lately occurred in the north, where a railway servant had saved a train from being overturned by sending it upon a wrong line. He did not know that this had anything to do with the present case, but, so far as it went, it confirmed Mr. Locke's observation. Mr. Locke said, the case to which the coroner referred had occurred upon the Grand Junction line, and he was glad he had reminded him of it. The company's servant on that railway, finding that a train was advancing at a faster rate than it ought to have travelled, and that if he had obeyed the signal the train would be turned upon a curve, where, going at that rate of speed, it would probably be thrown over, turned it upon the wrong line of rails. There was no doubt that that man, in the exercise of a little discretion, had saved that train, and it was not by any means the only case which had occurred in his experience. Still he did not wish to excuse the man who had in the present case disobeyed orders. I am most anxious in all cases to do what we possibly can to lessen the frequency of railway accidents, but at the same time I am not over anxious to press upon these unfortunate men. I have been so much accustomed to ride on engines myself that I have no doubt I also have committed faults with the best desire to prevent accidents. Enginemen will sometimes not be looking ahead; they will be thinking about other things; and accidents will arise, I am afraid, as long as the world is constituted as it is, if you try and do all you can to prevent them. I do not think that any railway company has better servants than the South Western company. I recollect the faces of many of their engine drivers ever since the railway was opened, and many others have been with the company a long time. These accidents make men more cautious, and if you were to visit such accidents with very severe penalties I do not think the public would be any better served. After one or two misfortunes a man becomes more steady and careful than the one you would put in his place. I have seen instances of this, and I know that it makes them better and more careful servants. At the same time I am bound to say that the engine driver and fireman of the goods train (Jones and Fleming) could not have been exercising a proper lookout upon the line, or they must have seen the signal. I am extremely sorry, but so it was. I am aware that the opinion I have avowed respecting the exercise of a discretion on the part of railway servants is a dangerous opinion for a man in my position, and I have some little delicacy in expressing it. I have made mistakes myself, and I have seen others do the same; but I have seen also much inconvenience saved to the public by acts against rules and by the exercise of discretion. I know we have public feeling and the press ready to censure us for not adhering to rule, but railway operations are so multifarious that the public would not be better secured by a blind adherence to rules, and they would often be subjected to much inconvenience in consequence. The coroner: then an accident such as has happened in this case would not take away your good opinion from a man like Brownsmith for example? Mr. Locke: not at all. I should look at the case of course with reference to his past conduct and his general intelligence. I had a great respect for Markland (the deceased). He was so steady I would have trusted him with anything. I believe he has often been with the queen in her journies along the line. The cause of

the stoppage of the locomotive of the passenger train might have occurred to any engine, but it was one that rarely does happen. Locomotive engines travel a long while without requiring repairs. There is one on the Grand Junction railway which has run 37,000 miles without requiring the least repair, and many of them never require repairs more than once in twelve months. The machinery part of railway locomotives is very different from what it was; I believe these engines are now almost as perfect as hands and iron can make them.'

"There is so much good feeling, strong sense and practical reasoning in all this, that we are sure our readers will thank us for having drawn their attention to these remarks."

Little Miami Railroad Report for 1847.

RAILROAD OFFICE,
CINCINNATI, *December*, 1847

To the Stockholders in the Little Miami Railroad Company:

GENTLEMEN:—The directors respectfully present to the stockholders their annual report of the proceedings of the board in the management of the concerns of the company, committed to their charge, for the year ending on the first of the present month, accompanied by the reports of the officers in the several departments, exhibiting in detail the operations within the year—the business done in transportation, the machinery procured, the improvements made in the erection of the necessary buildings, repairs made on the line of the road, the receipts and expenditures, and the state of the finances at the end of that term. These will present at one view the facts of most interest to the stockholders. It will thence appear, that the business in the transportation of freight and passengers, has been continued throughout the year without interruption or unusual casualty—that the receipts, under the unfavorable circumstances in which the business was conducted, have been fully equal to our expectations. The net earnings have exceeded the estimate made at the beginning of the year, and, no doubt, would have been largely increased, had the company been in possession of sufficient machinery in the beginning of the year, to do the business in freight that then offered, at the various points along the line. The loss to the company and to the shippers of produce, from the deficiency of machinery for freight transportation, experienced throughout the last year, could not by any exertion be fully remedied for several months after the commencement of the present year. The partial failure this season in the wheat harvest, and the reduction in the price of flour in the market, has as yet prevented the shipment of any considerable quantity of that staple commodity. The freights in that article in the present season, when compared with that of the last, are but inconsiderable. The labor and expense for keeping the track in passable repair, has been much increased by the unusual wetness of the present year. A road structure too light to sustain the weight and wear of heavy trains in ordinary times, could not be kept in good order, or even passable condition, without constant attention and a heavy outlay, under the frequent rains of the season. The clay foundation of the superstructure, constantly saturated, yielding to the pressure of the trains, caused frequent displacements of the track. At the time of the commencement of our road, the means for the construction were but limited; works of the kind were new to the country. Many then doubted the feasibility of the project—disposable capital not abundant, and few had the ability to contribute to the stock on a large scale; hence the plan of construction—the estimates of cost, and the capital stock designated by the charter, were all calculated on the scale for a cheap work. The road was made to conform to the measure of the means provided, and was formed with the light plate bar iron, the mode then in common use. It was soon discovered that roads formed on this construction could only be safely used by running at a slow speed, and with a light train; and that engines of great power, capable of drawing heavy trains, could be employed with most economy and safety in the working of the road. By adding to the power of the engine, a larger business may be done, without increasing the cost of running. The expenses are nearly the same whatever class of engines are made use of. The cost of engine men, firemen, and for superintendence and management, is the same on the light as on the heavy trains; nor is the preference given to the heavy trains with a view solely to the economy in transaction of the business, for more security against delay and accident is attained. To do the same business, a less number of trains will be on the road at the same time, hence the frequent delays at the *passing stations* will be lessened, and the danger of collisions measurably avoided. On almost all the railroads brought early into use, the weight and power of the freight engines have been from time to time increased, and the roads rebuilt in a more substantial form to sustain the action of the heavier trains. The substitution of a heavier iron rail, in place of the light flat bar, has been made, or is being made, on all of these roads. The cost for maintaining a track laid with a light flat bar, in passable order, is annually more than double what is required to keep in good order the track laid with the heavy H rail It has been stated by an experienced engineer, "that in the greater annual expense in maintaining a track with a light rail, the company in the course of time will be amply remunerated for the larger capital which, in the first instance, a rail of heavier weight will involve."

The directors, from their own observation, became early satisfied that the construction of the road was defective, and not calculated to answer the purposes for which it was intended—and with difficulty the present business can be transacted in a sotisfacto-y manner, and that when the business is materially increased, as it will be by the junction of the Mad river and Lake Erie railroad—which junction, we are assured, will be formed in the month of May next; and also by the intersection of the Columbus and Xenia railroad, which at no distant period will take place. The work of construction has already been commenced on the east end of that road. It will then, with the additional business brought on by these connections, be utterly impracticable in the present state of the road, to meet the demands of the community for transportation. The business will imperiously demand the construction of a more durable railroad, to be laid on a firm and unyielding road bed. Convinced of the necessity of an exertion to effect this object, and encouraged by the example of other railroad companies similarly situated, an application was made to the State Legislature at their last session, for an amendment to our charter, to increase the capital stock of the company, and to authorize contracts to be made *on their own credit* for a new loan.

The application was responded to by an enactment, in which the objects of the application were in a qualified manner granted. The assent of the stockholders was required to several conditions, before they could avail themselves of the benefit of the grant. By the terms of the act, the acceptance of the conditions, or their rejection, must be decided by a vote of the stockholders. No meeting was called for the purpose of deciding the question, as it was the unanimous opinion of the directors and other stockholders informally consulted, holding in their own right a majority of the stock, that the qualifying conditions were onerous, and could not be accepted with safety to the future interests of the company.

The question will be submitted, in compliance with the requirements of the act, to a vote of the stockholders; not, however, with the expectation that the conditions will be approved, or the act accepted. Failing to obtain from the legislature a grant, on terms acceptable, of the right to increase the capital stock of the company to an amount commensurate with the objects in view, the affairs of the company were placed in a situation embarrassing to those having charge in the management of its affairs. The capital stock as limited by the charter, originally inadequate to the purpose intended, was now wholly exhausted—by actual stock subscriptions, by dividends awarded, and by loans convertible into stock at the option of the bondholders. With but limited funds in possession, and thus cut off from the usual available sources of supply, as additional stock subscriptions could not be received, nor new loans contracted for, on the former accustomed terms, the directors had to determine, in the exigency, the proper course to be pursued. The duty of improving the road, to meet the demands for transportation, both present and prospective, was imperative. The interests of the company and of the community demanded it. Progress in the work must be made as far as the means applicable to the purpose would justify. The funds, therefore, of which the board had control, were employed, and contracts *on time* made, in anticipation of future receipts to a limited extent, to effect the more necessary improvements and repairs.

The graduation of a double track from the

city to the seven mile post, to be laid with the heavy bar iron, has been principally executed, and authority given by a resolution of the board, for the extension of the double track graduation out to the fourteen mile post, fitted for a similar structure; locust cross ties have been contracted for, and a large quantity of them now delivered, to be used in forming the new track. Four thousand tons of H rail iron, weighing sixty-one pounds to the yard, have been contracted for; six hundred tons of which to be delivered in the present year, eight hundred tons in the next year, and the residue in the year following. A considerabe quantity of that to be first delivered. is now on the ground. A commencement had been made in laying down the new track, but the inclemency of the weather has interrupted the work. It will be extended for several miles early in the next year, and then form a substitute for that part of the old track now most out of repair.

The directors, impressed with the importance of a railroad communication with the seat of government, and a connection there with other railroads to be constructed, promising great facilities to eastern travel, and being persuaded that the interests of this company will be promoted by bringing the proposed work into early use, have concluded an arrangement with the Columbus and Xenia railroad company, (obligatory when approved by the stockholders,) for constructing a branch of their railroad from the town of Xenia through the county of Greene, in a direction to the city of Columbus, terminating at a point on the Madison county line, to be established by the mutual agreement of the agents of the respective companies. This branch road, when completed, and the legislature shall have given authority for the purpose, is to be transferred to the Columbus and Xenia railroad company, and thence become a part of their railroad—the Little Miami railroad company having received an amount of the stock of the other company, equal at par value to the cost of making this branch railroad.

It is not doubted but that by applying the net annual receipts from the road to the purposes of construction, the new track could be extended in the course of several years to the point of intersection with the Columbus road, and even to the extreme end of the line. It is, however, a course not to be recommended but as a last resort, in the failure of other means. Only a few miles could be completed in any one year, and the process of construction would be lingering and expensive. Such a course would not be generally acceptable—for the payments of dividends to the stockholders would thereby be deferred for an indefinite term. Better, however, adopt that course than suffer the road to go into a state of partial disuse, and our accustomed business to be diverted to other channels for conveyance.

An application to the legislature should be made at their present session for the same objects prayed for at the last. It would probably now receive more mature consideration, and be met with more liberal views than formerly. The interests in railroads is a growing one: the more they are brought into view will their value be more appreciated. Indeed, their utility at this time is universally admitted. A calculation of the advantages resulting from the establishment of one railroad, would go far to remove any doubts as to the general utility of such improvements. It is demonstrable that the value imparted by the construction of that work to the real estate along and near to the line of the road. will constitute an aggregate amount much exceeding the cost of its construction; and that the annual saving in the expense of transportation by that channel, compared with the rates formerly paid on other routes, will constitute in the aggregate an amount more than equal the annual interest on the cost of building the road. This additional value imparted to the real estate, and the annual saving on the cost of transportation, is clear gain to the individual citizens residing within the range of its operations. The tolls collected on the public works, and the net receipts and dividends on turnpikes and rail roads, is not the measure by which their value should be estimated. Works may fail to produce annually an amount in tolls and net earnings equal to the interest on the capital invested in their construction, and yet be of incalculable benefit to the community. The advantges arising from the construction of the Little Miami railroad would be realized on the extension of similar works in the other productive parts of the state, laying remote from market and the leading thoroughfares for transportation. It is manifest that whatever increases individual wealth in the community, will, in a proportionate degree, increase the capital, wealth, and revenues of the state. On the principles of just policy, the public authorities ought to aid and foster the exertions of associated individual enterprise, in the construction of improvements so eminently calculated to promote the general prosperity and wealth in community. This obviously just policy must eventually prevail. We then have a reasonable confidence that the application of our company to the legislature will be favorably received—the capital stock of the company so enlarged as to enable them to complete the work in which they are engaged, in the proper manner. Should this be the case, there is no doubt that additional subscriptions of stock would be made to a larger amount, and loans negotiated to supply the immediate demand for funds. The company thus provided, could in a short time finish their railroad with the requisite appurtenances, in the most approved and substantial manner; and with these facilities, ensure the prompt, regular, and secure transaction of the business. And it cannot be doubted that the business properly conducted, would afford to the stockholders a remunerating profit on their investments.

Before closing the report, it is proper to state, that the officers and agents in the employ of the company, have discharged their respective duties in a manner satisfactory to the board of directors.

JEREMIAH MORROW, *Pres't.*

TREASURER'S REPORT.

Abstract of the condition of the books of the company, December 1st, 1847.

For construction		$872,284 49
For depots and real estate		121,752 63
" machinery and animal power		223,872 00
" expenditure on account of transportation		112,265 91
For interest and expense		156,085 40
" subscriptions delinquent		46,100 72
" bills receivable		5,863 86
" cash in hands of treasurer		711 15
" cash in hands of agents, and due from sundry individuals		13,043 83
		1,551,979 99
By capital stock	$632,601 67	
" loan from city of Cincinnati	100,000 00	
" bills payable	124,344 91	
" transportation receipts	221,139 52	
" proceeds of eastern loan	204,390 00	
" surplus Dec., 1846	986 39	
" loan, 1846	220,000 00	
" amount due sundry individuals	48,502 51	
" profit and loss	14 99	
		1,551,979 99

The amount expended up to the 1st instant for road cars, engines, and appurtenances, is as follows:

Graduation and masonry		$330,961 81
Bridges		28,593 55
Superstructure		423,453 63
Interest and expense account		155,245 15
Engineering		35,517 93
Machinery		223,503 40
Real estate		25,082 34
Lands for right of way		44,401 33
Animal power		368 50
Depot account and water stations		101,512 71
		1,368,640 35
Less, interest chargeable to current expenses		30,396 16
Amount expended		1,338,244 19

The amount expended during the year ending 1st December, 1847, has been:

For graduation and masonry		$16,625 15
" bridges		2,293 68
" superstructure		32,670 97
" interest and expense account		48,591 18
" engineering, including balance due.		3,672 89
" machinery		98,614 30
" real estate		19,913 87
" lands for right of way		3,948 09
" transportation expenditure, including wages of men, fuel, horse power, repairs of engines, cars, etc., and also repairs and renewal of superstructure and road bed		112,265 91
For depots		33,432 38
		372,028 42

The receipts on account of subscription to capital stock and permanent loans have been,

From the city of Cincinnati, in bonds	$200,000 00	
" " " loan	100,000 00	
From the State of Ohio, in interest	6,900 00	
" " " bonds	115,000 00	
From the county of Greene, in cash	26,145 34	
" " " bonds	23,000 00	
" " " interest	854 66	
" " Clarke, in bonds	25,000 00	
From individual subscriptions	124,547 33	
From proceeds of eastern loan	204,390 00	
" loan of 1846	220,000 00	
		1,053,599 99

The subscriptions to capital stock are,

By the city of Cincinnati		$200,000 00
" State of Ohio		121,900 00
" county of Greene		50,000 00
" county of Clarke		25,000 00
By individuals		131,047 33
		527,947 33
Amount of stock dividends to 1st December, 1847		58,553 62
Total		586,500 95

The present indebtedness of the company is,	
In bills payable	$124,344 91
In open accounts in the books.	48,502 51
Permanent loans	524,390 00
Total	697,237 42
The earnings of the transportation department for the year ending the 1st inst., are as follows:	
For carrying freight, passengers, and the mail	$221,139 52
The expenditures	112,265 91
Leaving the sum of	108,873 61
The account with stockholders will stand as follows:	
Net receipts for the year	$103,873 61
Less, interest on loans now become a yearly charge on the revenue	30,396 16
	78,477 45
Less, also a charge to depreciation of machinery, 8 wheel cars, 4 wheel cars, and passenger cars, according to estimate of superintendent	20,479 95
	57,997 50

The preceding tabular statement shows a net earning by the road of nearly fifty-eight thousand dollars, belonging to the present shareholders, and after dividing 8½ per cent. for the last year, will leave a surplus, or contingent fund, of about eleven thousand dollars I would therefore recommend that a dividend of 8½ per cent. be declared, payable with interest, on the 1st of January, 1850; and that scrip, or such evidence of debt as the board deem proper, be issued for the same. This form of payment will be necessary, as the road will require all the earnings, nearly, up to that time, unless funds shall be obtained by other means.

It is now about an average of six years since the stock has been paid up; and the aggregate of the dividends heretofore declared, payable in stock, has only been 11½ per cent., or less than 2 per cent. per annum. Should a dividend of 8½ per cent. be now made, it will make the average for the six years 3½ per cent. per annum to the original subscribers. These subscribers now retain more than *five* out of *six* of the shares originally owned by them—a fact which seems to show a confidence in the ultimate success of the enterprise, which is now for the first time about to be realized.

Should the Mad River railroad be completed early in the ensuing season, as is promised, the net earning of this road will not probably fall short of one hundred and sixty thousand dollars—a sum which will be nearly sufficient to pay off the present indebtedness of the company. But as the road is about to be re laid with the heavy rail, other means must be obtained to complete it in a manner to realize the expectations of the public, and to give to it the usefulness of which it is capable. This desirable end is so important to all who are interested in the business or travel of this region, and so essential to the carrying out of the great system of internal communication, of which this road forms a part, that it is hoped there will be no hesitation on the part of the general assembly now in session, in granting such an increase of our capital as may be required.

It may be proper to state, that an urgent necessity exists, for the removal of a part of the track which now runs upon the Cincinnati and Wooster turnpike, where it enters the city of Cincinnati. That road being a very crowded thoroughfare, and too narrow for the accommodation of the turnpike and railroad, serious inconvenience has been occasioned to the inhabitants, and to the public, by the lacation of the railroad upon it; and the directors of the railroad are anxious to change the route, by taking it off the road, and the street connecting with it, upon ground nearer the river, which will be occupied by ourselves exclusively. For this purpose also it may be necessary to ask the aid of the legislature.

In my last annual report I took the liberty of suggesting, that the business on our road, gratifying as it was, had been created chiefly by the road itself, and did not interfere with the receipts of the public works owned by the state, which are too distant from it to be materially affected by it. This view of the subject is confirmed by the reports of the officers of the state, showing the increased revenue of the state from that source, during the year just closed, and which, from the occurrence of several disastrous floods, has been particularly unfavorable in regard to such works.

Very respectfully,

JACOB STRADER, *Treasurer.*

SUPERINTENDENT'S REPORT.

OFFICE LITTLE MIAMI R.R. COMPANY, CINCINNATI, *December*, 1847.

To the President and Directors of the Little Miami Railroad Company:

GENTLEMEN:—In presenting the fifth annual report for your consideration, it is gratifying to all connected with the transportation department, to be able to show, not only a greatly increased gross receipt, but also a corresponding net revenue for the benefit of stockholders. Considerable as this sum is compared to the means of transportation in the possession of the company during the first half of the year, and at a time when the greatest amount of business offered, it is, as has been the case previously, far less than the business of the country would have furnished, had the transportation department been equal to the demands upon it. The motive power up to June was entirely deficient; but since that time, seven new locomotives have been put upon the road, which, together with the opportunity given for repairs, by the usual falling off of freight during the summer months, has enabled us to place this portion of the machinery in good working order.

Since the date of the last report, the wooden rails and ties have been renewed for the distance of five miles, and the superstructure otherwise thoroughly repaired on the whole line. A further and heavy expenditure for this purpose will be necessary the coming year, on that portion of the road between Foster's Crossings and Xenia. That part of the road lying next to the city has received such repairs only as were deemed essential to the safe passage of trains. A contract was made, as was supposed, early in April, for a sufficient quantity of H iron to re-lay this part of the road in a permanent manner, but owing to a misunderstanding as to the time of delivery, no part of it was received until October. Three hundred and twenty tons, under a contract for four thousand tons, six hundred to be delivered this fall, and the remainder in one and two years, has come to hand, and another shipment of three hundred tons may be expected before the close of navigation.

Preparations have been made to lay it down as fast as received, and a few weeks of fair weather will enable us to substitute a new track for the present decayed structure. The iron weighs sixty-one pounds to the yard, and appears to be of superior quality. The plan adopted for laying the new track, it is believed, will make a road equal in all other respects, and superior in the quality of timber used, to any in the United States. A subsill four by ten inches, is imbedded in a coat of ballast, varying from twenty inches to two feet in depth. The cross ties, of black locust, averaging six by seven inches, are laid thirty inches from centre to centre, except at the joints in the iron rail, where two are placed intermediately. Opinions vary as to the durability of locust timber, but all agree in stating that it may be relied upon in this situation for twelve years, which is twice the length of time the best white oak will remain undecayed in this climate. Two plans of fastenings will be tried on the first division of six miles. One a cast iron chair, moulded to fit the base and stem of the rail, and the other two wrought iron clamps, rolled to fit the stem, and secured with rivets. It is hoped that a few months' experience will determine the relative value of the two modes, and enable a correct decision to be made between them.

The plan of erecting walls of masonry to sustain the hills where slides occur, interrupting the business of transportation, has been steadily continued; although from the unusual amount of rainy weather, as rapid progress has not been made as might be desired. One thousand feet linear has been completed, a small portion being erected at the joint expense of the owners of property and the company. The frequent and continued rains have increased the number and extent of slides at various points on the road, and as soon as the means of the company will permit, efficient steps should be taken to prevent further encroachments and liability to interruption from this cause.

In the month of November, the valley of the Little Miami was visited by one of the most destructive floods that has occurred in a great number of years. The water at two or three points measured by permanent marks, was ten inches higher than it had been for twenty years previously. The principal damage sustained by the road, beyond filling up ditches, was at the double culvert under the deep embankment at the Miami river. The masonry of the culvert was but just completed when the flood came. A levee erected at the head of a bayou to keep out the river at high water, gave way, and damaged the pier and both faces of the work to

the amount of five or six hundred dollars. The lateness of the season prevented anything being done, beyond securing it temporarily from further injury. The trestle work on the north side of the bridge over the Little Miami has been filled up with earth, except about nine hundred yards over the culverts previously mentioned as damaged. On the south side the work has been delayed in consequence of the unreasonable exactions made by the neighborhood in relation to a county road. It is believed that a better understanding of the contemplated change will remove the existing difficulties, and permit the work to progress. Otherwise it will undoubtedly be better economy to rebuild this portion of the bridge, than to yield to their demands.

The bridges on the road are generally in good repair, and all, it is believed, in a safe condition. A new and much more substantial bridge has been erected over Cæsar creek, in place of the old one, and the materials for a new bridge to substitute the present one over Todd's Fork, sold for a county bridge, are on the ground, and ready for use as soon as the stage of water will permit its erection. Under the head of repairs of bridges, is included the cost of the new bridge over Cæsar creek, less the value of old materials sold and credited to account. A similar charge yearly, in addition to current repairs, will be sufficient to maintain this portion of the superstructure permanently—extraordinary accidents excepted.

As the work advances, preparatory to relaying the road with heavy iron, it becomes important to decide upon the propriety of making such alterations in the location as will tend to improve the grades, and reduce the curvature. Several errors exist in the location of that portion of the road proposed to be re-laid in the ensuing year, and if they are to be corrected, no time should be lost. From the eighth to the ninth mile post, as it now stands, there is almost a continuous curve, when at a moderate cost a straight line may be substituted with equally, if not more favorable grades. From the twelfth mile post to Milford, a still more important change can be effected, reducing both grades and distance. Other points are also susceptible of minor improvement. No instrumental examinations have been made with a view to these changes, but no doubt is entertained, that true policy and just economy will justify the expenditure required to make them. As a matter of justice, it may be proper to state, that at the time the road was located, the company had not the means to construct it upon what would now be considered the most economical route. It was but too often simply a question between building the road with a certain sum of money, or not building it at all.

The necessary shops and engine house have been commenced and are nearly ready for use. The unusual amount of bad weather, has delayed their completion several months beyond the time anticipated. The buildings consist of a semi-circular engine house, calculated to receive ten locomotives; a machine shop, two hundred feet long by fifty feet wide; a car shop, one hundred and fifty feet long by fifty feet wide, all of brick, and a blacksmith shop, of wood, sixty feet by thirty. The necessary lathes, presses, planeing machines, etc., etc., have been ordered, and will, when brought into use, reduce the cost, as well as facilitate the work of repairs.

In addition to the buildings already enumerated. the company own in Cincinnati two freight depots—one two hundred and ninety-six by fifty-four feet, and the other two hundred and fifty by forty feet—both of brick; a passenger depot one hundred and fifty-four by sixty feet, and an office thirty six by twenty feet, also of brick: at Milford a warehouse one hundred feet by thirty, of wood: at Morrow a brick engine house thirty eight feet by twenty: at Corwin a warehouse fifty feet by eighty, of wood: at Xenia an engine house forty-six feet by sixty, and an office forty feet by sixty—both of brick; and at Springfield a semi-circular engine house, of brick, calculated for five locomotives, and a warehouse, of wood, one hundred and forty feet by sixty, besides wood sheds sufficient to cover four thousand cords of wood.

Two double water stations, one of brick, and two single ones of stone, have been erected during the year; and the materials are on the ground for two more. Two in addition will probably be sufficient for the wants of the road for a number of years to come.

The near approach of the time for the completion of the Mad River and Lake Erie railroad to its connection with this road at Springfield, renders it desirable that some arrangement should be made for the transmission of passengers and freight to points beyond the termini of the respective roads without unnecessary transhipment or delay. As it is important to the interests of both parties, that it should be settled before the opening of the line through, I would respectfully suggest the propriety of definite action at an early day. In anticipation of the great increase of travel and freight which the advantages possessed by this route during the summer months over all others in operation between the Atlantic seaboard and the west must give, under your instructions, six first class passenger, and twenty-four eight wheel feight cars have been ordered—all to be completed by the first of May, 1848. Orders have also been given for the construction of two passenger and one eight wheel connected freight engine.

It is to be regretted that difficulties are still thrown in the way of a change of location by a portion of the property holders in Fulton. The route selected between the turnpike and river presents many advantages over the side hill for a road, independent of the great cost and doubtful success of constructing a *permanent* work upon a moving mass of clay and stones. Great inconvenience and a heavy yearly expenditure will be saved by the change to the lower route, while it is believed that the owners of property and those doing business on the river will not suffer anything like the annoyance by this mode of transportation that they would, were drays and wagons to be substituted.

RECEIPTS AND EXPENDITURES

On account of transportation for the year ending 1st December, 1847.

For carrying passengers	$90,843	90
For carrying freight	130,295	62
Total	221,139	52

EXPENDITURES.

For renewing rails and ties on five miles of track, and the ordinary repairs on remainder of superstructure	$7,376	14
For repairs of road bed, ordinary and extraordinary	17,390	75
For repairs of cars, including 31 new iron trucks	10,572	34
For repairs and renewals of locomotive engines	14,690	29
For repairs of machinery	323	15
" water stations	35	32
" bridges	1,608	55
For oil and tallow	3,098	05
For fuel	18,664	68
For rent	2,126	95
For loss and damage	3,371	86
For transportation expenditures, including wages of men, salaries, horse power, etc	32,947	86
Total	112,265	91

RECAPITULATION.

Total rec'ts on account of transportation	$221,139	52
Total expenditure " "	112,265	91
Net receipt over current expenses	108,873	61

A statement of the receipts each month in the year, for carrying freight and passengers.

	Passengers.	Freight.
1846, December	$4,117 84	$10,333 32
1847, January	4,186 38	9,306 93
" February	4,282 25	12,530 40
" March	5,520 22	15,007 80
" April	6 377 54	15,604 74
" May	8,482 39	13,811 01
" June	8,517 89	12,171 08
" July	11,568 66	7,059 19
" August	11,017 99	6,273 36
" September	10,409 24	7,736 11
" October	8,783 08	9,083 95
" November	7,580 42	11,373 09
Totals	90,843 90	130,295 62

A comparative statement of the business of the road for the years ending December, 1846, and December, 1847.

	Passengers.	Freight.
1846	$51,190 11	$64,861 91
1847	90,843 90	130,295 62
	39,653 79	65,433 71

Equals $105,087 50, or an advance of nearly one hundred per cent.

The number of cars will be found in an estimate of the present value of machinery, cars, etc. Great annoyance was experienced in this department during the business season of the year, from the want of uniformity in the trucks, journals, and wheels, which had been introduced from time to time. If an accident occurred, it was often difficult to replace the broken part, on account of the diversity of forms and sizes in use. To remedy this difficulty, and to obviate objections to the old form of trucks, a new iron truck has been adopted, which, after a six months' trial, we have found far more simple, safe, and economical than any heretofore in use. The greater liability of axles in four wheel cars to break, together with the disagreeable motion and want of safety otherwise on an uneven road like this, has induced the abandonment of this form of car for general use. During the summer, thirty-two have been broken up, and the materials sold and credited to the account.

A statement of the amount charged on the 1st inst. to machinery, passenger cars, eight wheel cars for freight, and four wheel cars, together with an estimate of their present value.

Machinery, including lathes, fixtures, etc		Dr. $113,003 29
Locomotives Gov. Morrow and Shawnee	$10,000	
Locomotives Springfield and Xenia	13,000	
Locomotives Miami and Warren	14,000	
Locomotives Ohio and Ben Franklin	15,000	
Locomotives Milford and Wm. Penn	16,000	
Locomotives Cincinnati and Hamilton	14,000	
Locomotives Robert Fulton and A. St. Clair	16,000	
Locomotive Greene	7,000	
Value of lathes, engines, tools, etc	2,800	
		107,800 00
Estimated depreciation		5,203 29
PASSENGER CARS.		
Amount charged to this account on 1st instant		$18,851 69
Eight passenger cars in the aggregate	$11,000	
Four baggage cars in the aggregate	3,600	
		15,400 00
Depreciation		3,451 69
EIGHT WHEEL FREIGHT CARS.		
Amount charged to this account		$67,993 41
Ninety-seven open and covered, equal to new aggregate		65,000 00
Depreciation		2,993 41
FOUR WHEEL CARS.		
Amount charged to this account		$20,596 56
15 new gravel cars, 17 open and box cars, 2 wood cars, 6 platform, and 11 hand lever cars, aggregate		11,765 00
Depreciation		8,831 56

Making in all, $20,479 95—which, if credited to the different accounts, will make the value of the several items equal to the sums charged against them.

A statement of the principal articles of produce transported on the road for the year ending 1st December, 1847.

Apples, clover seed, eggs, etc	barrels.	9,788
Beef, pork, and lard	"	11,096
Molasses, oil, vinegar, etc	"	4,987
Whiskey	"	44,899
Wheat and buckwheat flour	"	151,974
Salt	"	5,202
Empty barrels and kegs	"	12,825
Merchandise, sundries, etc	lbs.	10,973,843
Iron and nails	"	3,151,893
Pork and bulk meat	"	2,554,155
Paper and rags	"	892,349
Butter	"	512,340
Castings	"	481,420
Hay	"	70,284
Lumber	M ft. B.M.	920,958
Hoop poles and staves	M.	7,370,662
Shingles		2,125,000
Malt	sacks.	3,872
Barley and oats	bushels.	71,869
Corn, wheat, and rye	"	194,917
Potatoes and turnips	"	4,242
Lime	"	86,190
Coal and coke	"	63,351
Live hogs	number.	29,938

Number of miles run by passenger, freight, and gravel trains during the year	160,765
Number of cords of wood consumed, 5,625; average cost per cord on tender, $1 90; total	$10,687 50
Number of bushels of coal, 8,000; cost per bushel 12 cents	960 00
Total cost of fuel used	11,647 50
Average cost of fuel per mile run	7·245 cts.
Cost of repairs of locomotives for the year	$14,690 29
Average cost of repairs per mile run	9·148 cts.
Average cost per mile run, including current expenses for all purposes	69·21 cts.

Name of each locomotive, weight, number of driving wheels, when placed upon the road, and number of miles run during the year.

	Weight in tons.	No. of driving wheels.	Date of service.	No. of miles run.
Gov. Morrow	12	4	Nov., 1841	8,439
Shawnee	10	2	June, 1843	14,529
Xenia	13	4	Sept., 1844	12,408
Springfield	13	4	Feb., 1845	15,376
Ben Franklin	15	6	Oct., 1845	10,285
Ohio	15	6	" "	15,252
Milford	15	6	Sept., 1846	19,924
Miami	13	4	" "	18,976
Cincinnati	16	4	Nov, 1846	3,136
Hamilton	16	4	March, '47	3,716
Warren	14	4	May, 1847	14,028
Greene	14	4	June, 1847	10,500
Wm. Penn	15	6	" "	10,920
Arthur St. Clair	15	6	Oct., 1847	3,276
Robert Fulton	15	6 detained in canal.		
Total miles				160,760

The amount charged to repairs of locomotives is somewhat larger than was anticipated; but when it is considered, that up to June of the present year, the motive power on the road was entirely inadequate to its wants, and that a great portion of the labor of repairs was of necessity performed in the night—a course always expensive and unsatisfactory in its results—the cause will be sufficiently explained. During the year, the cost of setting up new engines, sand boxes, shelters for engine men, extra spark arresters, etc., etc., have been charged to this account, with a view to cover depreciation of parts of the machinesy not subject to renewal, as far as possible.

The number of passengers carried for the year is 78,342, against 54,265 the previous year. Of this number, two were slightly injured by the carelessness of an extra train, and another had an arm broken by coming in contact with a stake in a cattle car on a sideling. Mr. Levi Knapp, ticket agent at Milford, lost his life in attempting to get on a freight train in motion at Plainville.

The past year has been remarkable for its frequent and destructive floods throughout the region bordering the Ohio river. Twice within that time the canals in this State have suffered serious injury, and one in a neighboring State has been almost destroyed, while not a single trip has been lost by a passenger train during the year, and but two by freight trains from this cause. The greatest injury has arisen from the imperfect manner in which the road bed was prepared for the reception of the superstructure—the absence of ballast rendering it impossible to keep an even surface during the long continued and frequent rains. Between Freeport and Xenia, in the absence of stone at a convenient distance, the bridges and cattle guards were constructed of timber. Within two years these will require renewal, and I would suggest the propriety of procuring stone at Xenia, and transporting by the cars at an early day.

Respectfully submitted,

W. H. CLEMENT, *Sup't and Engineer.*

The following gentlemen were chosen directors and officers for the ensuing year, viz:

Directors.—Jeremiah Morrow, Jacob Strader, John Kilgour, Griffin Taylor, R. R. Springer, Abraham Hivling, Wm. McCammon, Samuel Burnet, James Hicks, Lewis Broadwell, John Kugler, and Nat. Wright.

Officers.—Jeremiah Morrow, *President*, Jacob Strader, *Treasurer*, John Kilgour, *Secretary*, Wm. H. Clement, *Superintendant and Engineer*, and E. Gest, *Principal Assistant Engineer.*

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T.
Kensington, Philadelphia Co., March 12, 1848. 11tf

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames,* and on the line of the *Norwich and Worcester Railroad,* established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

DAVIS, BROOKS & CO., NEW YORK, offer for sale:

150 tons Railroad Iron, 60 pounds per lineal yard, of an approved pattern, and in long bars; also, 500 tons, ditto, expected to arrive in the month of April next. 6t8

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington,

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

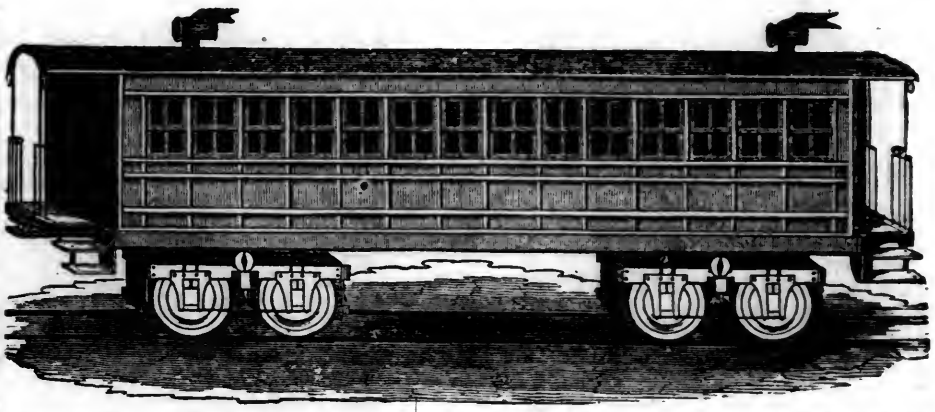
Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next. GEO. W. TOWNS, *Governor.*

WM. L. MITCHELL, *Chief Engineer.*
Atlanta, Ga., January 24, 1848. [7t6]

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*f*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

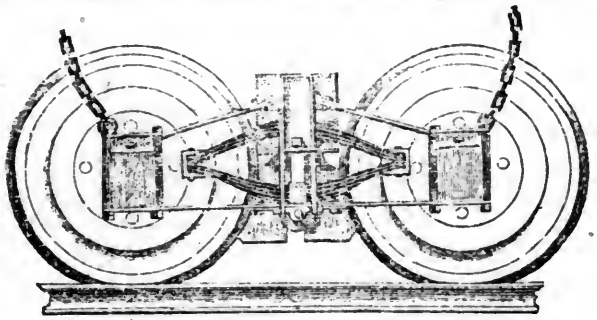
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
1u Philadelphia, Pa.

RAILROAD IRON, PIG IRON, ETC.
600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ¾ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

RAY'S EQUALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the best and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed.] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3¼	8	3	8¼	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2¾	5	2	6½	9	4	13½	1-2	7½
16	2¾	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

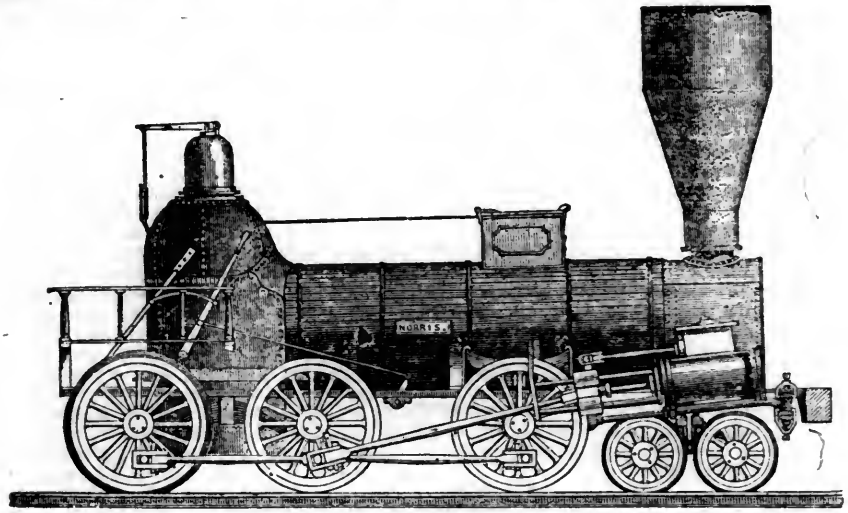
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

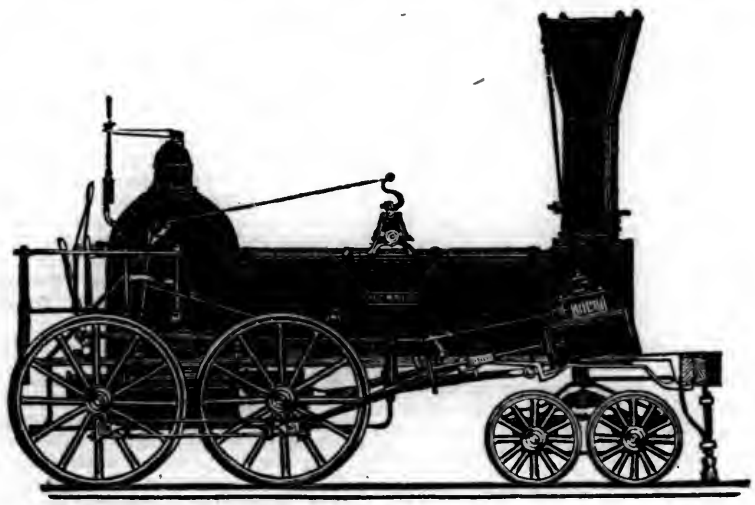
James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO exrcute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.

ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufactnre their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent*.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are fonnd invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.




WINTER ARRANGEMENT, Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

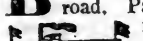
MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.

1y31 CHAS. MINOT, *Sup'r.*

BOSTON AND PROVIDENCE RAILROAD. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:




Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—




Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 18 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.




Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

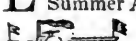
Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1v J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:




Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, and 2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

5tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.




Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

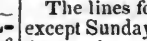
Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:




Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to

1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5¼ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10¼ o'clock, A. M.; Middletown at 11¼, A. M.; Goshen at 12¼, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4¼ a.m. Upward train arrives at Springfield at 2¼ p.m. Downward train arrives at Cincinnati at 10¼ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84¼ miles.

From Springfield to Bellefontaine by stage, over a good Summer road .....32 "

From Bellefontaine to Sandusky city by railroad .....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1¼ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville.....2 00
" Columbia.....2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad.....10
Through tickets to Harrisburg or Gettysburg..3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5¼ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35 1y

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CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

On Weight Goods—	To Atlanta.	To Oothcaloga.
Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.




A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

	Fares. Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.




Winter Arrangement.

Philadelphia for Baltimore...8½ a.m. and 4 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 4 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.–Philadelphia to Wilmington, 8½ a.m., *mail*, 1½ p.m., 4 p.m., *mail*. From Wilmington to Philadelphia, 8 a.m., 1 p.m., *mail*, 6 p m., 12½ a.m., *night mail*.

I. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper. Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise.] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

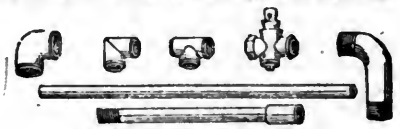
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

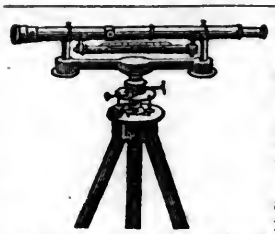
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For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
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☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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MANUFACTURERS OF ALL KINDS OF

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IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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INSTRUMENTS MADE BY
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Surviving partner of
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AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

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Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, April 1, 1848.

The Journal, Its Subscribers, and the Editor.

In *some instances*, and from causes beyond the control of the subscriber, or the editor, accounts for the Journal have been allowed to run along year after year, until $15 or $20 were due, when an order has been received from the postmaster to discontinue sending it, as the subscriber had removed. In this way, during a period of *fifteen years*, a very *considerable* amount has been lost, or in other words, *not received;* and there are now on the books of the Journal quite a number of accounts of from *three* to *five* years standing, amounting, in the aggregate, to *many hundred* dollars, which, *together with the current year's subscription, if paid in advance, according to the terms*, would enable us to get new type, and make other important improvements, especially the employment of *able editorial* assistance for the future, as well as to visit personally all the principal railroads and canals in the country, during the ensuing two years.

To accomplish these objects, if possible, a *bill* and *prospectus* will be sent by mail to each subscriber whose account is not paid up to January, 1848, in the hope that, on knowing the amount due, he will remit it without delay—and possibly at the *same time* send in a *new* subscriber, and thus give both "aid and comfort" in a *tangible* way. To those owing only for the *current* year, we say—shall be pleased to *hear from you soon*, and equally pleased to see all at our office.

☞ Our subscribers in *Canada* will please bear in mind that we have, during the postal *disarrangement*, to pay postage *to the line* on their Journals, therefore we look to them to remit for the current year without delay.

Iron Going to England.

"We find," said the *Pennsylvanian*, "the following in the *Liverpool Times*, of 12th of February.—We place it on record as something worthy of note."

"'RAILWAY IRON.—A vessel arrived at the port of Liverpool from New York, has brought in addition to a general cargo of American provisions, 63 tons of railway iron, consigned to order.'"

We noticed the preceding extract from the Liverpool Times, and remark of the Pennsylvanian, at the time it appeared, but did not deem it a matter worthy special remark, as we presumed it would be evident, to every one who might read it, that there could be no demand in England for *American railroad iron*, when the market *there* was *falling*, and the works on many railroads had been suspended. It is true, as the Pennsylvanian remarked, that it was "worthy of note," inasmuch as it was *singular*—or something uncommon—but to us it was no evidence of a demand in Europe for *our iron*, and consequently encouraging to our *iron* manufacturers. But seeing it copied into other papers, we requested a friend in New York to make the inquiry *how* it had occurred—but as yet we have received no reply from him, and therefore give the following from the *Tribune*, which gives precisely the same reason that we gave, as our supposition, when asked by a friend why such a thing had occurred. The Tribune says,

"A statement has recently appeared in some of the papers that railroad iron had been shipped from this country to England. The explanation is this: the rails sent to England were some English rails of an inferior quality, which had been lying in New York for sale, for some time, without finding a purchaser. The fact is now well established that American rails are better than English. The New Jersey railroad company, a few weeks ago, made a contract to purchase 1000 tons of the Trenton iron company, at $61 per ton, which was $8 or $9 above the price of English rails. The New Jersey railroad company has tried both English rails and those made at Trenton, and preferred to buy the latter at this difference of price. Since this contract was made, the price has risen in England and the United States."

We cannot, for a moment, suppose that intelligent editors have given currency to this paragraph, for the purpose of inducing their readers to believe that our *iron manufacturers* were able to compete with the English in their own markets! *That* would be undervaluing their intelligence, and sagacity, quite too much. It was of course noticed for its singularity at *this time*—though we doubt not the ability of this country to compete with England in any *other* market than her own—and, *indeed, in her own*—when our government shall have given a *just* and *liberal* protection to those who are, or may be, engaged in the iron business for *fifteen years in succession*, or during a period which will enable us to bring *mind* and *capital* to bear upon the interest, develope our resources, and make the necessary improvements in the process of manufacture. Let our capitalists, and men of science, feel that they are *safe* in devoting themselves, mind and money, to the business, and then we shall make iron good and cheap, and can compete even with England.

Legislative Interference with Railway Management, Reduction of Fares, etc.

We have received a copy of the Remonstrance of the Syracuse and Utica railroad company, against the bill to reduce their fare. It is an able document setting forth, in clear and forcible language, the reasons why the legislature should *not* interfere with their business, after having induced the people—by the granting of privileges, which were, *at the time, scarcely sufficient* to obtain the capital required—to construct the road; and we *ought*, perhaps, to give it without a word of comment. Yet we feel called upon, by what we consider a *just* estimate of the *rights* of those who have already invested their capital in railroads; and in consideration of the influence which the adoption, by the legislature of New York, of the *claim* of the petitioners, would have upon the railroad interest *hereafter*, to express freely and fully our opinions and convictions in relation to the matter.

In doing so, however, two things we desire to have *distinctly* understood. 1st. That we are the decided, *uncompromising* advocates of *low fares*—where the *business, travel* and *position* of things warrant it: and 2d. That we have not the remotest interest in the subject now under consideration, except so far as it affects the *great interests of railroads*, and the just rights of those who have invested capital under the provisions of legislative enactments—in the *belief* that they might rely upon the honest interpretation of those laws.

Just previous to the opening of books for subscription to stock in the Syracuse and Utica railroad, we were inquired of, by letter, by an intelligent farmer of Onondaga county, N. Y., our opinion as to its probable value as an investment. We read the charter—it allowed the company to charge four cents a mile for passengers, and to *carry freight without*

paying canal tolls, and we replied: "it will, as a *permanent investment, be better than bond and mortgage at seven per cent.—notwithstanding* the competition of the canal, on its most favorable portion, *as they are allowed* to charge *four* cents a mile for passengers, and to carry freight free of canal tolls." *Such* were our views before the stock was subscribed for, and they have been fully realized—even though the company, to allay public feeling, *yielded* their *rights* to carry freight free of canal tolls.

How true it is, that mankind, as a body, are never satisfied with their *present condition!* *We* recollect *well* when, at certain seasons of the year, it required twenty-four hours hard labor, to travel from Syracuse to Utica; and, no longer ago than April, 1823 —*not yet* a quarter of a century—we waited *two days*, in the vicinity of Syracuse—then a *very small village* —for an opportunity to get a seat in the stage for *Albany*: and when once fairly seated, we were 23 hours, hard work to Utica, and 49 hours, night and day, to Albany—for which we paid, stage-fare, to Utica $2 50, and thence to Albany $5, beside other expenses, not less than $4 or $5 more—making about $12, and using up 72 hours of valuable time, which lost us the packet from New York to Richmond, Va., and thereby incurred at least $15 extra expenses in reaching our place of destination.

We merely cite this, our own experience, for comparison by those who are now so deeply wronged at being required to pay $5 50, and to spend 12 hours' time, between the same points, Albany and Syracuse. So much for the *accommodation, economy* and *certainty*, furnished to business people, by a few sagacious citizens, who invested their capital in railroads, relying upon the *good faith* of the people, through the legislature, to protect their rights; and now for the *demands* of those who enjoy these benefits, without having outlayed or risked a dollar.

They claim the *right* to reduce the fare upon these lines, without giving an equivalent. As well might the railroad companies take a man's land, and cut down his orchard, to build their roads, without paying the damage. And as well might the legislature pass a law, taking a portion of a man's farm to build a *poor house*, or a *court house* upon, without *paying* for it, as to take from the shareholders of a railroad, the rights and *privileges* upon which individuals were induced to subscribe for the stock.

The law guaranteeing the right to a *farm*, a *house*, a *horse*, or to *bonds* and *mortgages*, is *no more* a law, and no more binding, than the law which authorizes people to establish a *factory*, a *bank*, or a railroad—and therefore, if the legislature may destroy the value of the investment in railroads, by compelling its managers to carry passengers at a rate which will not pay a fair return, so may they *compel* a bank to loan its money at three per cent. interest, and upon worthless paper; or a farmer to sell his wheat at 50 cents a bushel, and his pork at 3 cents a pound—but, say the *petitioners*, the legislature *reserved* the right to "*amend, alter* or *repeal*," these acts; true we admit these reservations—but why were they made? not to *destroy*, but to *control*, these numerous corporations, should they *violate* the privileges granted, by doing things *not permitted*. Not to cripple and *crush* them for doing *more* for the public, than the legislature required them to do. Not to *destroy* them, because they happened to be, by great effort, *tolerably* successful. Not to allow the thousands—the *millions* more propperly—who are enabled to save much time and money by these investments, not only to ride cheap, but to *drive* also, without incurring any risk; in short, not to *rob* the *few*, who have built the roads, for the benefit of the *many*, who derive *nearly* all the benefits resulting from their construction!—

Is there a man who passes over these roads, from Albany to Buffalo, who does not *save* more money, counting time, than the man, who owns *a share* of stock in them, receives annually for its use? Then the 120,000 passengers who pass over this line annually are benefitted in direct saving at least $8 each, or $960,000 per annum, without having risked a dollar. Do the shareholders receive as much? Certainly not—even though *they* have invested nearly *ten millions* of dollars! Yet we see those, who save more annually without risk, than is derived from the outlay of this immense capital, using great effort to control those who own the roads, and to make them adopt a course contrary to their own *convictions*, and *interest*, and *vested rights*. As well might they ask for a law to enable them to *purchase* their neighbor's farm at their own valuation; or go into a neighboring store and take what articles they *desired* at *their own* price. And, indeed, when the bill now before the legislature of New York becomes a law, we shall be disposed to petition the legislature, of that noble State, to grant us the *duties* now collected on the salt manufactured within their borders, or to allow us to select the *best* farm on the *Genesee flats*—we have our eye on it—and the price fixed at our own estimate—of what we choose to give for it.

If the legislature had given these companies an *exclusive privilege* for carrying *passengers* and *freight* through the State, and they managed to exact more than the legislature intended to allow them to charge, for the service rendered, then there would be good grounds for asking legislation on the subject; but so far from this being the case, they are not *allowed* to carry freight without paying tolls upon the cost of the *State canals*—and have at the same time to compete for their passengers with the very cheapest inland *artificial* navigation, or communication, in the world.

If those who travel would reduce the fares on the railroads from Albany to Buffalo, they have a *legal* and *legitimate* way of doing so—just as they have the *right* to purchase their *tea*, and *sugar*, and *tobacco*, of Mr. C., who lives out of town, pays no rent, and has his house *kept* in *repair*, and therefore sells cheaper than Mr. R., who owns his store, and dwelling, and keeps them in repair, and pays heavy taxes in addition. Let them travel on the *canal*, and leave the railroad companies to run their cars *empty*, if they charge too high. When the people adopt this course for a sufficient period, and the receipts of the companies fall off, because they charge more than the service is worth, or more than others will do it for, and *as well* as the railroad companies can do it, then the rates will be reduced, and legislation will not be needed.— O yes, say these gentlemen, that is all very well to *talk* about, but we are in a hurry, and cannot *spare the time to go by the canal*—therefore we will go by the railroad, and not only so, but at our own price; *that* is all very well, too, we say—but if you wish for *railroad speed*, you must pay railroad prices, as you are obliged to pay higher rates for a pair of good, than poor, *boots*, or for *eminent* medical or legal services than for the services of a man who is not known.

If, however, it should be decided to adopt this system of legislating away the vested and *inalienable* rights of property of *one* class of people, we go for carrying the principle into every other class—we go for purchasing a *farm* at our own price, and merchandise at our own rates; *we*, of course—*not* having paid for these articles—are better judges of their value than those who earned the money, and invested it in them, at rates deemed, by both seller and buyer, as about just and equitable between the parties.

There would be glorious times under such a state of legislation, for those who could have everything their own way—but then there are very few, even of the petitions to the legislature, we imagine, who would be willing to *sell* upon this principle.

We shall give the remonstrance in our next, and shall be obliged to some of the readers of the Journal if they will take up the subject, and give us their views upon it at length. Every railroad company, and stockholder, and bondholder, has a direct interest in putting down this attempt to legislate away a man's property because it is so invested as to be useful to others as well as himself.

This is a question of right to our own property, not of *policy*, or *theory*, of *high* or *low* fares.

Iron Trade in England and its Prospects.

"*Liverpool Iron Market.*—During the last month the prices of iron have remained with little alteration. The greater proportion of the workmen in the Staffordshire district still resist the reduction of wages; but as some of the men have yielded, it is probable the whole will shortly return to their labor. The make of iron has somewhat reduced in Wales, by the blowing out of some furnaces. The make in Scotland remains much the same, and prices there of bar and rod iron have been somewhat reduced, but they are now in a better position. Scotch pig iron commands a higher price, and is still in demand. The following are the present prices of iron in Liverpool:—Merchant bar £7 15s.; best rolled £9 5s.; hoop iron £9 15s.; sheet iron £10 10s.; Scotch pig £3 5s."

The above is from a Liverpool paper.

There is evidently much dissatisfaction amongst the men employed in the manufacture, at the proposed reduction of wages, but they must inevitably yield, as the proprietors cannot pay the former prices, and must suspend operations unless the men yield,

The following from the London Railway Chronicle, gives a pretty fair idea of the condition of the iron business:—

"*Glasgow, Feb.* 11.—The market for pig iron continues very firm, and with the money market gradually getting easier and more plenty, prices will not, probably, be much lower. The shipments noted below, by the *North British Railway Gazette*, show a fair average for January, which is generally a dull month. Shipments in January—

	1817.	1818.
From Broomielaw.....	14,300	10,492
Port Dundas and Kirkintilloch.	7,390	7,073
In all.....	21,690	17,555 tons

"*Birmingham, Feb.* 14, 15.—The price is now firmer, with, if anything, an inclination upwards, stocks being so small; although, of course, in the absence of demand, no improvement worth notice can be expected. The forge and mill men have held a meeting at Tipton, to determine upon the measures to be taken with reference to the strike. Thereat it was reported that upwards of sixty iron works were yet standing still, and that two only had resumed operations during the week; making something like eighteen works in this district working at the old prices. A resolution was unanimously passed not to return to work at the reduced wages. The colliers held another meeting to consider an amicable arrangement with their employers; a deputation was appointed. The men stipulate, that when the price of iron was reduced 10 per cent., their wages should be reduced 7½ per cent., and that when it advanced 10 per cent., their wages should be rose 7½ per cent. They enforce these conditions with some show of reasoning, that a compliance with them only can be the means by which the strikes can be put an end to, which have hitherto been attended with such ill consequences. Further, they express themselves willing to return to their labor at the rate of 1s. per pound per ton on the existing

price of pig iron, that is, 3s. 6d. per day, and to rise and fall in the poportions above named; or they are willing to accept a settled rate of wages."

For the American Railroad Journal.

The writer of the letter from St. Petersburg, mentioned in your last Railroad Journal, is in error as to the contractors for the new iron bridge across the Neva. I had the gratification of seeing the bridge in November last, as it stood erected on the premises of the contractors, Messrs. Berry, Curtis & Kennedy, at Liverpool.

The contract was understood to be about £100,000 (half a million dollars.) This bridge consisted of seven arches of immense span, and the weight of iron in them was calculated at 7,000 tons. The contractors are also the designers of the bridge, by whom Mr. McChonnochre was employed as superintendent—and under his able management, the river was surveyed, the soundings taken, and the bridge erected, to the lasting honor, I have no hesitation in saying, of all concerned. THOMAS PROSSER, C. E.

NEW YORK, MARCH 21, 1848.

"Honor, to whom honor is due," is the *motto* of the Railroad Journal; and we can only say that the paragraph referred to, in No. 12, or March 18th, was clipped from one of our exchanges, and given, we are vexed to say, without its "ear mark"—showing conclusively that, *editorially*, as well as otherwise, "honesty is the best policy."

Railway Tactics in England.

The following, from the Railway Chronicle, shows the system adopted by some of the English companies. They get acts of parliament for numerous branches—and then hold them to prevent competition. It has been this spirit of control, or grasping monopoly, which has caused much of the recent speculation in railway shares in England.

In speaking of the recent half-yearly meeting of the "SOUTH WESTERN company—which owns the line and branches from London to Portsmouth, Southampton, Dorchester, Salisbury, etc., the editor says:—

"The meeting passed off quietly, because of the maintenance of the 8 per cent. dividend, notwithstanding the recent depression, and this seems to have given great satisfaction. Mr. CHAPLIN made one of his sound statistical speeches, in which he proved, and apparently to the satisfaction of the shareholders, that even in the event of all their extensions being completed, no apprehension need be entertained of any ultimate depression of dividend under, at the worst, 7 per cent. Mr. LOCKE quieted the apprehensions of the shareholders by assuring them that the works will be done under the estimates, and that no further use will be made of the parliamentary powers to be obtained, than to keep the enemy out of a field which they will only proceed to occupy as fast as may be deemed advisable. The absurd idea that he wanted these lines because they touched Honiton, he refuted by the statement that the lines were planned long before the purchase of Honiton had either been planned or executed. Mr. HOYES' motion fell to the ground for lack of supporters; and on the whole, a meeting which was viewed with alarm, has passed over quietly, creditably, and satisfactorily to the great body of shareholders."

THE GREAT WESTERN divide for the six months ending December 1st, 3½ per cent. instead of 4 per cent., as usual, and carry over £41,000, which would have enabled them to divide 4 per cent.

The following extract from the report gives the result of the business for the last six months.

"The exact average of the whole half year shows 248¼ miles worked in 1847, as contrasted with 244¼ miles in 1846. If a comparison be made between these two periods, it will be found from appendix No. 1, that the number of passengers travelling in the last half year has increased by 138,119 over the corresponding half year of 1846; that there has been an excess also of 27,821 tons of goods, and that the receipts have been augmented to the extent of £17,572 15s. 8d., of which increase it may be satisfactory to state, that £10,684 has been realized exclusively on the the Great Western, and £3,881 on the Cheltenham lines. The increased expenditure results in a great measure from the extra trains and additional establishment for the new lines. The engines have travelled 106,269 miles more in the latter than in the former period.

"The balance now disposable for dividend amounts to £257,318 2s. 3d., and the directors recommend that a dividend of £3 10s. per cent. on the amount of capital called up be declared for the half year ending the 31st of December, 1847, payable on and after the 1st of March to all the proprietors who were registered on the books of the company on and before the 7th of February last, absorbing the sum of £215,526 10s. By the note appended to the foot of the accounts, the proprietors will see it stated, that the balance would admit of the usual dividend of 4 per cent., and still leave a surplus of £11,002 2s. 3d.—sufficient in ordinary times to be carried to the next account. They are influenced in making the recommendation of the smaller rate of dividend principally by the fact of an unusual stagnation in railway traffic at this moment, perceptible during the last few weeks on this as on almost all other lines of railway in England. The directors firmly believe that this is the natural, and will prove to be merely a temporary result of the existing state of trade and commerce in this country, and that the progressive and steady increase hitherto manifested in the receipts of the established railways will shortly be resumed in the income of your undertakings. In the next half year, always the least productive, the capital upon which a dividend will be payable, has been increased by the calls very recently made; and with a view to equalize the rates of the two dividends during this period of depression, and until the new lines just opened can materially add to the resources of the company, the directors are decidedly of opinion that the permanent value of the property will be best insured by carrying the larger balance of £41,791 12s. 3d. over to the credit of the current half year. It is, however, the province of the proprietors to decide the rate of dividend, after ascertaining the state of the accounts, and being apprised of the general position of the company; and the directors have therefore thought it proper to express frankly the grounds of their recommendation in favor of confining the present dividend to the rate of 3½ per cent."

The total amount of capital and loans received by this company, for main line and branches, was, up to December 31st, 1847, £10,996,889 19s., and its total expenditure to same date, £10,970,635 18s. 1d., and its balance in hand on capital account, as per statement, £26,254 0s. 11d. They have yet in reserve, liable to be called in, on shares, £2,002,100.

Norwich, Ct., Car Factory.

We have received, through Adams & Company, a beautiful lithographic view of this establishment, which makes an imposing appearance.

This company was formed in 1847, for the purpose of manufacturing railroad cars and locomotives; at present, however, they attend only to the car branch of the business. They erected during the past year, only the buildings necessary for this branch of the business. The manufactory is situated near the head of navigation, on the river Thames—and on the line of the Norwich and Worcester railroad—thus possessing every facility for forwarding cars to any part of the country. They have, we are told, a large cash capital, and some of the most thorough business men in the country for directors The buildings, erected expressly for the business, are large and commodious—furnished throughout with the latest and most approved machinery. That containing the workshop is 90 feet long, 40 feet wide, with an ell of 50 by 40 feet; the other—containing on first floor, the "set-up shop," as it is called, and on the second floor rooms for trimmers, upholsterers, etc.—is 150 by 50 ft., and three stories high. When in full opsration they will probably employ from 150 to 200 hands.

Thus it is that one enterprise gives rise to others. In the construction, and management of railroads, and their *requisites*, more people will be employed than in any other one interest, except agriculture.

This company are now prepared to turn out a large number of cars in a year—and have orders from several different roads; and still the old established shops are fully employed—and several other new ones are coming into operation in New England, as may be seen by referring to our advertising columns.

THE IRON MANUFACTURERS' AND MINERS' STATE CONVENTION, says the Harrisburg, Pa., Intelligencer, of 24th ult., met here on Wednesday, 22d. It was a very respectable and intelligent body, Delegates were in attendance from various parts of this State, and from the States of Virginia, Maryland and New York. A number of resolutions were passed, and committees appointed to collect statistical information with regard to the iron and coal trade, the consumption of agricultural products, etc. Our columns are so crowded this week that we are compelled to deter the publication of the proceedings—they will appear in our next issue.

We intended to have been present at this convention—but were disappointed. We shall look with interest for the publication of its proceedings—and shall have something to say hereafter on the subject for which it was called.

New York Railroads, Summer Arrangement.

We have been furnished with the following schedule of the summer arrangement for running the cars between the Hudson river and Buffalo. It will be found useful to travellers, but would be more useful if it also gave the *through* and *local* fares—we shall endeavor to add them in another number.

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves	Albany	7½ A.M.	2 P.M.	7 P.M.
Pass	Utica	1 P.M.	7½ P.M.	1½ A.M.
Pass	Syracuse	4½ P.M.	11 P.M.	5 A.M.
Pass	Auburn	6½ P.M.	1 A.M.	7 A.M.
Pass	Rochester	12½ M.N.	7 A.M.	1 P.M.
Arrives at	Buffalo	5½ A.M.	12 M.	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves	Buffalo	7½ A.M.	2 P.M.	7 P.M.
Pass	Rochester	12½ M.	7 P.M.	12 M.N.
Pass	Auburn	6½ P.M.	1 A.M.	6 A.M.
Pass	Syracuse	8½ P.M.	3½ A.M.	8 A.M.
Pass	Utica	12 M.N.	7 A.M.	11½ A.M.
Arrives at	Albany	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

Reading Railroad and Coal Trade.

The amount of coal forwarded by the Reading railroad, during the week ending the 16th ult., was,

From Schuylkill Haven	7,808 10	tons.
" Pottsville	2,242 05	"
" Port Carbon	5,610 11	"
" Port Clinton	2,115 16	"
Total	17,777 02	tons.

And during the week ending 23d ult., and since the 1st of January, was

From Schuylkill Haved	7,958 12	tons.
" Pottsville	2,391 08	"
" Port Carbon	6,727 00	"
" Port Clinton	2,112 00	"
Total	19,180 00	tons.
Total this year	164,353 11	tons.

New Car for Curves.

"Messrs. Morse & Mansfield, machinists, at South Canton, Mass., have invented a new car, which has been represented to us as being a most valuable improvement. We have not yet, says the editor of the Scientific American, seen the model, but from what we have heard, curves will be surmounted by it in a very easy manner. The primary cost is somewhat more than those now in use, but the ultimate expense will not, as there will be a great saving of tear and wear, taking all things into consideration, and roads may be made with any amount of curves, so as to save deep cuts, or avoid other impediments and costs in constructing straight railroads."

We should like exceedingly to see a car with the advantages said to have been attained by Messrs. Morse & Mansfield.—(Ed. R. R. J.)

New Railroad Car Brake.

"Mr. Charles Clinton, of Middletown, Orange county, New York, has invented a new car brake, for which he has taken measures to secure a patent. It is self-acting, and stops the car instantly, if the locomotive should be run off the track."

This account promises too much. If it had said, "when the locomotive runs off the track, the *car* is *detached* and *continues on*, and may be brought to a rest in a short distance," we should have more confidence in its utility. Yet it may be a valuable improvement, and we should like well to hear from Mr. Clinton on the subject.—[Ed. R. R. J.]

Traffic Returns, English Railroads.

"From official returns, it appears that the amount of traffic for the second week of February, on upwards of 3,436 miles of railway, was £118,199, thus accounted for:—£70,423 for the conveyance of passengers only, £41,632 for the carriage of goods, and a remainder of £36,144 for passengers and goods together, not respectively apportioned; being an increase of £13,635 over the corresponding week of the former year, when the mileage was 2,680. The average earnings per mile for last week were £43, whilst in 1817 they were £50."

New Telegraph.

The Gossip of the Railway Chronicle says, "We observe that Mr. Whishaw, late of the ELECTRIC TELEGRAPH company, is advertising a new hydraulic telegraph."

Ogdensburg Railroad.

"A meeting of the directors of this road has been just held in this city, says a writer in the Boston Daily Advertiser of the 15th inst., and the most energetic measures have been taken for the early completion of the whole work. The last 30 miles of the east end of the road to Rouse's Point were located, and the whole line from Ogdensburgh to Lake Champlain is now ready, and in the hands of efficient contractors. Six thousand tons of rails have been purchased, to be delivered before the first of October next. The timber for ties, fences, etc., has been purchased, and also the chairs and spikes. Ten first class engines have been contracted for. Sixty miles of the road will be ready for the rails the early part of next autumn. A portion of the remainder the month of April following, and all by the first of July succeeding. The directors confidently believe that the road will be opened for freight and travel from Ogdensburgh to Rouse's Point on Lake Champlain, by the 15th of August, 1849. The affairs of the company are in a condition entirely satisfactory."

Thus it will be seen, if this prediction is verified, that *Boston* will have the first railroad avenue to the lakes—allowed to carry freight.

We have now before us the recent report of the Rutland and Burlington railroad company, accompanied by a map, showing its proposed connection with the Ogdensburgh road at Rouse's Point, where the river Richelieu is to be crossed by a bridge.

This map shows the entire line of the road from where it crosses the Connecticut at Bellows' Falls, to and beyond Plattsburgh in New York, and also its probable extension from *St. Albans* in Vermont to St. Johns, and thence to Montreal—also a proposed branch to White Hall in New York.

We shall publish this report at an early day, to show what progress has been made by the western Vermonters—who were late in the field—yet who show, by their treasurer's report, that they do not lag when once they engaged in the good cause.

Niagara Suspension Bridge.

The process of hanging a cable across the gorge where the "international bridge" is to be suspended, was, as we learn from the Lockport Courier, accomplished in the following manner:—"A twine was first sent across the chasm attached to a kite. This done, the process of drawing over cords of increased size and strength, was an easy and very simple task."

This was the *first* crossing—the *second* is detailed below.

Suspension Bridge, Niagara Falls.

The following interesting and thrilling description of Mr. Ellet's crossing the Niagara river is from a correspondent of the New York Courier and Enquirer. He says:—

Your readers have not forgotten, I am persuaded, a sketch which I gave of the famous Niagara Falls suspension bridge, and which, from the interesting nature of the subject of which it treated, was extensively copied.

The work is begun, and the first crossing has been made! I am fortunately enabled to send to the Courier some thrilling facts connected with this journey, such as no man in the new world ever before made.

"I raised," says the distinguished engineer, "my first little wire cable on Saturday, and anchored it securely both in Canada and New York. To-day, (March 13,) I tightened it up, and suspended below it an iron basket, which I had caused to be prepared for the purpose, and which is attached to pullies along the cable.

"*On this little machine I crossed over to Canada*, exchanged salutations with our friends there, and returned again all in fifteen minutes. *The wind was high* and the weather cold, but yet the trip was very interesting to me—up as I was, *two hundred and forty* feet above the rapid, and viewing as I did, from the centre of the river, one of the most sublime prospects which nature has prepared on this earth of ours.

"The machinery did not work as smoothly as I wished, but in the course of this week I will have it so adjusted that any body may cross in safety."

The view from the centre of the bridge must have been glorious, but whether sufficiently so to have repaid the adventurous architect for his perilous journey, I leave to the romantic readers of the Courier to imagine. I understand that a lady has since the above date made the daring transit.

I have watched the progress of this great work anxiously. The engineer is writing his name in iron letters on the record of useful men. This is not his only achievement. The bridge constructed at Wheeling, Va., of 1000 feet span, is his designing. I shall keep your readers advised of every important progress in the great national work, whose first usefulness to man (the object of all right labor,) I chronicle to-day. I trust it may be ages before any one shall be able to say in respect to this bridge of the cataract—"The last link is broken."

Depreciation of Railway Stock.

In his opening speech at the general meeting of the London and North Western shareholders, Mr. Glyn thus spoke of the depreciation:—

Now I think that your executive may take some credit to themselves, in spite of a good deal of opposition which was encountered upon the subject, for having always kept steadily in view the question of depreciation. We have felt from the first—composed as the direction is of mercantile men, who weigh these questions—that the depreciation question is one of most serious import, and that sooner or later that question must press itself upon every railway company, however much, during the first years of their existence, they might choose to overlook its effects. Now you will see in the account that is in your hands, charges against the capital for new stock. Allow me to account for that. I will take, in the first instance, the question of rails—a very important question—a question that is beginning to press itself every day more and more upon public attention; and the greater our weight, and the greater our speed, the more that question will press upon us. We have found it necessary, from the experience we have gained, to increase very considerably the weight of our rails. Now, how have we done that? Wherever we have taken up old rails, and substituted new rails for them of increased weight, we have charged against the revenue the cost of the old original weight of rails with which you started; and the new capital laid out upon the increased weight, we have charged to the capital account. Now if anybody can find a fairer system than that, we will adopt it; but that does appear to me to be a course which must at once approve itself to the mind of every mercantile man. Again, with regard to locomotive engines. Suppose, for instance, at the beginning of the last half year our stock of locomotive engines for working the line was 300, or any other given sum; (I mention that merely as a figure; that during the course of that half year, those engines from any cause whatever—insufficiency, or being worn out, or broken—became incapacitated for the work of the company; they are replaced by ten new engines, and those new engines are charged against revenue. In the same half year we undertake to work a new line of railway—say the Lancaster and Carlisle, or any other line in which we are engaged. We order for that purpose 30 new engines; we pay for them out of capital; they are new capital stock added to our old stock. Our number of engines then becomes 330. Upon that amount of stock the revenue is for the future entirely liable. Now I appeal to you whether anything can be

more simple or more fair than that mode of dealing with that part of the question.

In another part of his remarks upon the same subject, he says,—

Upon touching the question of depreciation, I omitted to mention to you,—you will find it alluded to in the report, and I might also dispense with it—the fact that, considering the question of depreciation is on which ought to occupy the most serious attention of your executive body, as in point of fact, requiring the necessary funds being kept—for that depended the proper working of the whole line, the proper state of your works, and the proper state of your stock of engines, really depends upon that question—your directors have thought fit, not only to take the usual course with regard to the re-laying of the rails, to which I have before alluded, but conceiving that, in the course of some fifteen or twenty years, the existing rails will, from the working upon them, require necessarily to be replaced by others, they have thought it their duty to call upon you to sanction the annual appropriation of £15,000 for the purpose of forming a fund to meet that contingency from time to time.

In his closing remarks, the chairman says:—

I have no doubt you will recollect that during the two last sessions of parliament, we have possessed ourselves, through the medium of different acts of parliament, of various powers for the construction of lines in different parts of the country. We have paused, under the circumstances of the times, in carrying forward many of those schemes. We have, in point of fact, delayed all; and we have only proceeded with those which it would have been folly at the moment to have abandoned. With regard to all those which are scarcely begun, or which have not been commenced at all, I assure you, on the part of the directors, that no schemes connected with any of those acts of Parliament will be entered upon by us without a full and mature consideration of all the circumstances. We shall consider what is required by the country through which those lines pass; but we shall also consider, and attentively consider, how far the outlay connected with those lines may eventually be instrumental or otherwise, to your future and permanent interests. I am quite willing to admit that, about eighteen months since we were all more or less impregnated with that fever which then prevailed. We all felt, perhaps too strongly, the necessity of warding off those attacks which apparently were made upon us from a variety of quarters. Those schemes received your sanction at the time; and I am not at all disposed to repent that we went to parliament to secure the ground which we occupy; but still I do not hesitate to say, that before we expend your capital upon them, we shall maturely consider (as I said before,) your position with regard to them, as well as the position of the public. Gentlemen, if parliament continues to encourage the doctrines of competition, as it has hitherto been inclined to do, I do not hesitate to say before you all, that I for one, must consider railway property as an uncertain and inconvenient investment, and as a tenure which no man will recommend to his family or to his widow to hold; but if the present parliament should return to that system which Lord Dalhousie recommended—if, instead of trying to destroy each other's interest, the railway companies can be brought to bear together; if, instead of competition, parliament will put all railway companies upon a fair system of fares and charges for the public good, and will give the existing interests that which I maintain they have a right to claim; namely, protection for the money they have laid out. I then do not hesitate to say, that the old existing lines of railway, and this line in particular, will continue to be, under any circumstances, a safe and sound investment for those who choose to entrust us with their capital.

This is the company that has had to contend with the Great Western, or Mr. Brunel's broad gauge lines. It covers a large territory, and wields an immense capital—but a fraction less than $110,000,000, and is therefore a neighbor not easily pushed one side.

The following are the lines belonging to this company that were in use in August last, viz:

Southern section.	Miles.
1st, London to Birmingham	112¾
2d, Bedford and Blehley	16¼
3d, Warwick and Leamington (25)	8
4th, Northampton and Peterborough (27)	42¼
Northern section.	
5th, Liverpool and Birmingham (28)	97¾
6th, Chester and Crew (29)	21
7th, Liverpool and Manchester (32)	32
8th, Manchester to Crew (30)	31
9th, Manchester and Macklesfield (34)	18
10th, Liverpool and Preston (35)	16¼
11th, Liverpool and Bolton (36)	28¼
Total miles	424

But they have grants for several other lines and branches, which they will probably hold, or bring into use, as may suit their convenience—having the control.

Railway Accommodation.

A writer in the London Morning Herald thus compares the relative accommodation afforded by the "*London and North Western* and the *Great Western* railway companies. The editor says,—

In our previous notice we mentioned what we considered the superior advantages conferred upon the public by the Great Western company in the amount of second class accommodation, and the rates of speed at which their ordinary trains travel. We shall now point out some of the superior advantages given to first and second class passengers by the London and North Western company in respect of the rate of fares charged for single tickets over any portion of the rail, and for double tickets for a distance over which they can be conveniently used.

The advantage which the Great Western system of fares possesses over that of the London and North Western company, consists in the period for which the return ticket is granted, and in the extension of the return ticket system to passengers by the express trains. If the passenger is proceeding by an ordinary London and North Western train, and does not require a return ticket, he is charged considerably less than he would have to pay if he were, under similar circustances, travelling upon the Great Western railway. The first class passenger taking a single express ticket to Exeter, 194 miles, pays 50s.; but to Liverpool, 200 miles, he pays 45s. By the ordinary trains, the first class fare to Liverpool is 37s, but to Exeter it is 44s. 6d., while the second class fare to Exeter is 30s, and to Liverpool 27s. To those passengers whose business will detain them a day in Liverpool or Manchester, the return ticket of the Great Western offers an important pecuniary advantage over the fare system of the London and North Western; but we are inclined to believe that the number of persons who avail themselves of the advantages of return tickets for through journeys of a couple of hundred of miles is very far below that of the passengers who can make use of a single ticket only Where one Exeter passenger enjoys the benefit of the return ticket system of the Great Western, perhaps ten Liverpool or Manchester single ticket passengers—persons to whom return tickets offer no benefit—reap the advantage of the lower fare of the London and North Western company. Low fares *must* be a saving to all passengers; return tickets can be economical to a very small minority only of them. The shorter the journey made by the traveller, the less comparative saving does the Great Western return ticket system secure to him. If we deal with the traffiic between London and Bristol and London and Birmingham, we shall find that while the return ticket system of the London and North Western company affords a very reasonable amount of accommodation, the *low fares* of that corporation show a very important money superiority over the charges of the Great Western company. The first class passenger, by the ordinary trains to Bristol, 118 miles, pays 27s., but to Birmingham, 112, he pays 21s only. The second class fare by the same trains, to Bristol, is 18s. 6d., while to Birmingham it is 15s. The advantage in favor of the traveller taking the return ticket is of course greater If he proceed by the 8 30 morning train from Euston square, he arrives in Birmingham at 12 o'clock, and can devote a clear five hours to business before the starting of the 5 45 afternoon train, which reaches London at 10 10. He can have nearly the same time in London if he take a return ticket from the Birmingham office. The money advantage that he reaps is as follows:—the first class return ticket to Bristol and back, by the ordinary trains, is 36s, to Birmingham 28s.; by second class to Bristol 24s. 8d., to Biamingham 20s. Again, by first class to Chippenham, 94 miles, and back, it is 32s. 3d.; to Coventry and back, the same distance, it is 23s. 4d. only; by second class to Chippenham 19s. 4d., and to Coventry 16s. The first class return ticket to Slough 18 miles, and back, is 5s. 4d.; but to Watford, 18 miles, and back, it is 4s.; by second class to Slough and back it is 3s. 4d., and to Watford and back, 2s. 8d. These are very material differences in favor of the London and North Western company. The period allowed by the Great Western for the use of

return tickets, viz:—One day for 50 miles, 100 miles two days, and above 100 the same on either of the two next days, is a considerable benefit, but a benefit conferred comparatively upon a few; while the advantage of the cheaper fares of the London and North Western is felt by *every person* that travels upon the line. The Great Western may point to its *tens* of passengers who are benefitted by the broad gauge system of return tickets, but the London and North Western can show the *hundreds* that enjoy the general advantages of the narrow gauge low rate of fares.

We have not space at command to go into the general question of fares, and to examine how far the amount of population in the respective districts through which the two companies' system of railways run, induces, and perhaps justifies the difference in the fares charged; we merely state facts that have reference to the amount of accommodation given upon the lines in question. Nor are we to forget that while a numerically superior through traffic may enable the London and North Western to reduce their fares to rates that perhaps would scarcely pay the Great Western company, the latter are giving the greater amount of accommodation to districts far inferior in commercial importance and point of population, to those traversed by the London and North Western railway. If we mistake not, the Great Western company are bound by act of parliament to lower their fares upon the opening of the Birmingham and Oxford line. The fare will then be, we believe, 2½d., 2d., and 1d. per mile; *quite low enough* without the *present* Great Western system of return tickets.

Report of the Baltimore and Susquehanna Railroad.--Twentieth Annual.

This report has been some time on our table, yet its publication has been deferred until we could obtain another report in relation to the proposed railroad from *York*, or other point on this road, to *Harrisburg*; where it will open a direct and easy communication, not only with the Cumberland valley road, to Chambersburg and Hagerstown, and the *central* road to *Pittsburg*; but, also, by a few miles of road constructed beyond where the *central* road crosses the Susquehanna—with the *coal* region of Pennsylvania; and thus bring Baltimore *about* as near to this source of wealth, in the Susquehanna valley, as Philadelphia is to the Schuylkill, and New York to the Lehigh coal region.

The report now before us is a simple detail of the business transactions of the year, and financial condition of the company, and shows a very fair increase of business and receipts over the previous year.

In connection with this report of the directors, we give another in relation to the extension of the road to Harrisburg, which ought to induce early action by the people of Baltimore.

To Col. Jacob G. Davies, Mayor of the City of Baltimore:

The president and directors of the Baltimore and Susquehanna railroad company have the honor to submit their twentieth annual report, for the year ending September 30th, 1847.

The annexed tabular statements, Nos. 1 and 2 show the financial condition of the company on the 30th September, 1847, and its aggregate receipts and expenditures from the 1st of October, 1846, to that day. No. 3 shows the amount of transportation over the road for the same period, with the receipts and expenditures particularly appertaining to the transportation department.

The gross receipts of the company from the transportation of passengers and merchandise between Baltimore and Columbia during the past year amount to $256,913 58, being an increase of $46,278 39 over those of the preceding twelve months. The expenses of the transportation department during the same period have been $179,901 49, or an increase of $17,415 36 over those of the preceding year. These statements exhibits a gain of receipts from transportation of 22 per cent. over those of the previous year, and an increase of expenditure of a fraction over 10 per cent.

The number of passengers carried between Baltimore and York during the past year is 92,686; an increase of 29,851, or nearly fifty per cent. The number carried on the Wrightsville road during the same period is 22,665, an increase of 2,865 over the number carried in the year ending September 30th, 1846.

The freight passing over the road during the past and preceding year was as follows:

	1846.	1847.
Between Baltimore and York	274,724,581 lbs.	323,578,603 lbs.
On the Wrightsville road	135,726,191 lbs.	156,556,537 lbs.

This statement exhibits an increase of tonnage on the road between Baltimore and York of 48,854,022 lbs., and on the Wrightsville road of 20,830,346.

The net receipts of the company from transportation during the past year are $77,012 09; being an increase over the net receipts from the same source during the previous year of $28,863 03. The debts of the company (exclusive of interest on loans for the construction of the road) as shown by the last annual report, amounted on the 10th of October, 1846, to the sum of $35,073 85. By reference to the annexed statement No. 1, it will be seen that the indebtedness of the company had been reduced on the 7th of October, 1847, to $2,801 25. Showing a payment during the past year of $32,872 60 of pre-existing debts, exclusive of a payment of $36,000 made to the State of Maryland on account of arrears of interest due.

The road is in excellent condition. The storm which last autumn caused such serious injuries to many of the railroads and canals, in this and the adjoining states, produced no destruction to any of the works of this company; or if any, it was of the most trivial kind. No train was stopped or delayed for a single moment, by the effects of the storm.

No additional locomotives or burden cars will be required during the coming year; those now on hand being quite sufficient for the business of the road. During the past year, the board ordered the construction of two new passenger cars, one of which has, within a few days, been put on the road, and the other is nearly completed. The expense of these cars (the only ones constructed during the year,) has been paid from the sale of a locomotive, too light for the service of the company. Besides these. from the rapid increase of passenger travel upon this road, it is thought that two other additional passenger cars will be required during the next spring or summer.

From the report made by Mr. James Millholland, the superintendent of machinery and repairs, it appears that the total number of locomotives and cars owned by the company is as follows:

	No.	Estimated value.
Locomotives	16	$74,750
Burden cars	371	121,425
Passenger cars	18	21,050
		220,225

Some of the cars, however, are of little value, and unfit for use. This report includes the passenger car now in progress of construction.

In the last annual report, reference was made to the act of the legislature of Pennsylvania, authorizing the construction of a railroad from York to Harrisburg; and the importance of such an extension of the Baltimore and Susquehanna railroad, as well to the commercial prosperity of Baltimore, as to the revenues of this company was briefly demonstrated. During the last summer, a committee of the board appointed for the purpose, visited Harrisburg, and other portions of Pennsylvania on the route of the proposed extension, and made a report upon the subject, which fully explains the feasibility and probable cost of the undertaking. That report published by this company, and to which we beg leave to refer for further information on the subject, fully expresses the views of this board. It is hoped that, at no distant day, by the completion of the proposed extension, and the Central railroad of Pennsylvania, and other improvements now progressing in that state, Baltimore will have a continuous railroad connection, not only with Harrisburg, but with Pittsburg and western New York. The realization of this hope, confidently entertained, cannot fail to make the Baltimore and Susquehanna railroad a profitable investment to all whose means have been employed in its construction.

By order of the Board,

R. M. MAGRAW, *Pres't.*

Office, Baltimore and Susquehanna Railroad Company.

December 16, 1847.

No. 1.—*A condensed financial statement of the Baltimore and Susquehanna railroad company to the 17th October*, 1847.

RECEIPTS.

From capital stock	$450,000 00	
Loans from state of Maryland	1,684,045 29	
Loans from city of Baltimore	850,000 00	
Net transportation from Balt. to Columbia	404,704 44	
Fines for neglect private switches	250 00	
Sales of old iron	4,942 32	
Sales of locomotives	3,500 00	
Sales of lots in York	1,900 00	
		$3,599,342 05

EXPENDITURES.

Construction road, Baltimore to York	2,599,576 09	
Depots, water stations, & real estate	68,220 45	
Interest to state, city, and discount	259,567 33	
Stock Wrightsville, York, and Gettysburg railroad company	131,205 37	
Patent rights	6,528 22	
Locomotive, passenger, and burden cars	263,774 24	
Tracks to river at Wrightsville	7,851 20	
New locomotives	29,097 69	
New passenger cars	2,045 02	
		3,357,865 61
		211,476 44

FUNDS.

Cash and agents	9,064 83	
Baltimore and Susquehanna railroad stock	20,948 44	
Outstanding transporta'n.	21,056 47	
Sundry accounts	10,473 36	
Wrightsville, York, and Gettysburg railroad co. debt	161,887 81	
Do., balance of interest.	20,846 78	
	244,277 69	

DEBTS.

Company notes, $5 and $10 and $1 and $2	$282 00	
Bills payable	1,812 36	
Open accounts	706 89	
	2,801 25	
		241,476 44

No. 2.—*Receipts and expenditures of the Baltimore and Susquehanna railroad company for the year ending September 30th*, 1847.

RECEIPTS.

From balance of receipts and expenditures as per last annual report		$206,850 57
From gross transportation to and from Columbia, (see No. 3)	$256,913 58	
From interest account with Wrightsville, York, and Gettysburg railroad co.	9,713 27	
From fines for neglect private switches	50 00	
From sales of locomotives	3,500 00	
From sales of lots in York.	1,900 00	
From sales of old iron	440 25	
		272,517 10
		479,367 67

EXPENDITURES.

For those chargeable to transportation, No. 3	155,640 38	
For tolls to Wrightsville, York, and Gettysburg railroad company	24,261 11	
	179,901 49	
Interest to state	$36,000 00	
New locomotives	14,378 05	
New passenger cars	2,045 02	
Damages, (old claim	50 00	
Legal expenses	565 35	
Ground rent	428 75	
Patent rights	524 33	
Improvements of depots	1,232 91	
Construction	1,074 24	
York and Maryland line railroad company.	1,670 57	
Tracks to river at Wrightsville	20 52	
	57,989 74	
		237,891 23
		241,476 44

No. 3.—*The revenue and expenditures of the transportation department of the Baltimore and Susquehanna railroad from October 1st*, 1846, *to September 30th*, 1847.

REVENUE—BALTIMORE TO YORK.

Passengers, No., 92 686		$54,331 46
Merchandise, 323,578,603		160,333 63
United States mail		5,833 33
		220,498 42

WRIGHTSVILLE, YORK, AND GETTYSBURG RAILROAD

Passengers, No., 22,665	$10,175 43	
Merchandise, 156,556,537 lbs.	25,073 06	
United States mail	1,166 67	
	36,415 16	
		256,913 58

EXPENDITURES.

Tolls to Wrightsville, York, and Gettysburg railroad company	24,261 11	
Repairs of locomotives	$16,265 46	
Repairs of railroads.	13,147 17	
Repairs of passenger cars	2,215 85	
Repairs of burden cars	14,469 84	
Repairs of city track	2,158 71	
Repairs of Westminster branch	717 75	
Repairs of depots	456 89	
Repairs of stationary engine	415 40	
Repairs of water stations	701 18	
Repairs of turntables	263 43	
Repairs of bridges.	2,623 71	
Repairs of shops	1,114 16	
Running trains	46,315 70	
Fuel	33,725 13	
Horse department.	9,095 45	
General expenses	734 30	
Office expenses	906 98	
Salaries, president, sec'y, and clerk	3,700 00	
Printing and advertising	554 58	
Insurance	504 17	
Tolls, Columbia br.	4,820 89	
Taxes	167 04	
Loss on merchandise	377 75	
Columbia office	183 84	
	155,640 38	
	179,901 49	
		77,012 09

ROBERT S. HOLLINS, *Secretary.*

October 26, 1847.

On examining the position of this road, and the sources of business near at hand, the disinterested mind is at a loss to assign a sufficient reason for the apparent lack of energy and enterprise in those most deeply interested, when we consider how small an amount of capital, comparatively speeking, rs required.

Here is a road of 57½ miles in length, to York, which has cost about *three and a quarter* millions of dollars—with a branch, or *extension* to Wrightsville, 12 miles, at a cost of near *four hundred thousand* dollars—yet this outlay of abcut $3,700,000, does not reach the point where its *main* sources of income are to be found; and *therefore* this large outlay is unproductive—whereas, an *additional* outlay of *one-fifth* of the amount, will extend the line to a point where it will, by the time it can possibly be completed, receive a *portion* at least, of the business of *over three hundred* miles of railroad, penetrating the southern and western, the *agricultural*, *mineral* and *manufacturing*, regions of Pennsylvania; and also reach the coal region nearest to tide water—thus ensuring, *beyond a contingency*, an amount of business which will make the present outlay a productive investment, and add largely to the business and wealth of Baltimore. A liberal charter was granted, for a road from York to Harrisburg, by the legislature of Pennsylvania, two years since, which now allows but *three* years to complete the work—and which, it is possible, might not be renewed on as favorable terms, should it be allowed to run out before the work is completed.

We have before us a report from a committee of the directors of the Baltimore and Susquehannah railroad company, accompanied by a communication, and map, by ISAAC R. TRIMBLE, Esq., who has been long familiar with the proposed route. We give the communication of Mr. Trimble entire, and would give the report of the committee, if we could also give the map—perhaps they may deem its in- s rtion worth its cost.

From this report we learn that the grades, on one route, will not exceed ten feet per mile, and the cost of construction will be within the average cost of American railroads. With these views before us, we cannot refrain from *urging* upon those so deeply interested in the early completion of this short road, the necessity of *prompt*, *energetic* and *united* action.

We may also add a word, upon the influence which its completion would have, on the early construction of a railroad up the valley of the Susquehannah to, and the completion of, the *Williamsport and Elmira* road, thus penetrating the interior and western part of New York—and making this line a thoroughfare for travel from that region to the south. This is an important consideration for those interested in the Baltimore and Susquehannah railroad, *especially* the *city* of Baltimore.

Mr. Trimble says:—

BALTIMORE, June 10, 1847.

To the President and Directors of the Baltimore and Susquehannah Railroad Co:

GENTLEMEN: At your request, I give you the result of a late reconnoissance of the country between York and Harrisburg, made in company with a committee of your board, with reference to the proposed construction of a railroad northwardly from York to Harrisburg.

Our examinations, aided by impressions which I had received from a reconnoissance and partial surveys made ten years ago for a similar purpose, fully justify the following conclusions, to wit:

1st. That there are *two*—probably *three* routes of easy practicability from York northwardly to the west end of the Harrisburg bridge, or to a junction with the Cumberland Valley railroad at some point between said bridge and Carlisle.

Two of the routes would pass northwardly and westwardly across the Conawago hills—and the third would follow the Codorus and Susquehanna river. Instrumental surveys can alone properly determine a choice of route, and how far its selection should be influenced by local interests. These surveys should be full and complete, and might be made this summer.

2d. That the length of the *extension* to the Cumberland Valley railroad at any probable point of intersection, will not exceed a distance of 28½ miles; and by the shortest route will be about 27 miles.

3d. That the inclinations—gradients—on either route will not exceed 40 feet to the mile; and one of them will not exceed 10 feet to the mile on any part of the route.

4th. That the cost of the *extension* inclusive of *sidings*, *water stations*, *depot houses*, etc., along the line, and a suitable depot for freight and passengers at the point of intersection with the Cumberland Valley road, will not exceed on the average $18,000 per mile—not including, however, land and damages, which may be put down at a moderate sum, and not including engines and cars: it being suppose that the equipments of the Susquehanna road will be sufficient for the *extension*, the first year at least, and that they can run to Harrisburg. Thus the cost of the extension, assuming its length to be 28½ miles, will be $513,000.

From the unusually favorable character of the ground, on one of the routes, I should be fully justified in estimating the cost of the road, as specified above, laid in the best manner with a 60 lbs. rail, at less than $500,000, and in stating that responsible contractors are ready to contract for its entire completion for that sum, giving proper security.

At your request, I have also prepared a skeleton map, exhibiting the various lines of public improvements from Baltimore and Philadelphia, or New York, westward; as also the lines of improvement extending from the Susquehanna, to the coal basins of the Bear Valley and Stony Creek.

The great value of the bituminous coal of these basins, though not generally known, is yet well attested by both analysis and public use. The distance from Baltimore to the Bear Valley coal basin by the contemplated extension, is 140 miles, to Lyken's valley, 130 miles, and to Stony Creek basin, 108 miles. In both cases the route from Harrisburg would take the Pennsylvania improvements and thence to the coal basins, by local improvements.

The practicability of reaching a valuable coal district by railroad and canal, distant but 108 miles from Baltimore, is a discovery both new and gratifying to her interests.

In respect to distance, it places Baltimore on the same footing as Philadelphia with reference to a coal trade—the latter city being about 110 miles from the centre of the coal region above Pottsville.

When the contemplated Central railroad from Philadelphia west is completed, and a connection formed at or near Harrisburg, the section of it thence to Stony creek, or a short branch road from it, of perhaps two miles in length, taken in connection with the Baltimore and Susquehanna railroad, will form a continuous line of railroad communication 108 miles to Baltimore, the character of which will be well adapted to transportation of coal at low prices. This will be apparent from the following named characteristics of the route, viz:

From Stony, creek coal basin to Codorus, (one of the routes proposed) a distance of 46 miles, the road will be either level or descending towards Baltimore. From Codorus thro' York to Hethcote's station, a distance of 27 miles, there is no ascent of more than 12 feet per mile. From Hethcote's to the summit of Slate ridge, the ascent is 60 feet per mile, and the only unfavorable portion of the whole route. From the summit to Baltimore, 36 miles, there is a continuous descent, with the exception of one ascending grade of 3 miles, at 30 feet per miles.

To work the road over the summit, advantageously for coal or other heavy trains there should be a double track laid on the 5 miles of heavy grade, for the use of *assistant* engines, so as not to impede the regular transit of other trains. Then a coal or burthen train going south and arriving at Hethcote's; the engine would take a part of its train to the summit, and returning, bring up the remainder at one or more trips—proceeding on to Baltimore down grade with the whole train; or if found best, an assistant engine of great power could be kept at the summit to aid in hauling over the trains.

The cost of transporting coal to Baltimore would be $1 50 to $2 per ton—yielding fair profits.

I hope the present moment may prove auspicious in directing the attention of the merchants and property holders of Baltimore to the great importance of the extension to Harrisburg, by which means a valuable and extensive trade may be drawn to Baltimore at a comparatively trifling expenditure.

The vast trade of the Susquehanna valley and its tributary districts were formerly not undervalued by Baltimore, and when possessed by her, contributed more to her prosperity than that from any other source. For 20 years Baltimore, intent upon engrossing the rich and illimitable trade of the west, has neglected, or scarcely deemed worth suitable efforts, the trade and produce of the noble valleys of the Susquehanna, ample and rich to secure the prosperity of any city, if possessed by it alone. Impatient of delay while gazing westward towards the rich prize, Baltimore seemed to forget the humble maxim, "there is a time for all things," and that it would have been perhaps better to obtain a secondary benefit, at a small cost and without delay, before she made the great effort to reach the mighty west. Such a course might have given strength to her arm, new vigor to her energies, and brighter hopes in the accomplishment of her GREAT PROJECT.

That which ought to have been done long ago, should not now be delayed, for the reason which originally had force.

It is manifest that Baltimore will derive more benefit from the expenditure of half a million towards the extension of the Susquehanna road to Harrisburg, than from thrice that sum expended on any other object—and the benefit, too, will be immediate and at the same time, without injury to any other of her great schemes of improvement—what better incentive to action than this?

If we look beyond the trade of the Susquehanna valleys, to Pittsburg, following the Pennsylvania improvements, we find the shortest and best route to the trade of that city, to be by the road now under consideration, in connection with those improvements—made with the funds of another state; thus giving Baltimore an advantageous route to Pittsburg, for the trifling expense of $500,000.

There are abundant reasons why the citizens of Baltimore should rouse up, begin and complete this connection via Harrisburg, without hesitation.

Though not immediately applicable to the subject of the foregoing professional remarks, I avail myself of this occasion as a citizen of Baltimore, and one deeply interrested in her prosperity, to present some views in reference to public improvements of the state.

The public works of Maryland, after long years of toil and expectation, yet fail to pay the state or the city of Baltimore any, but an insignificant return upon their cost.

What is the reason of this? what peculiarity makes Maryland an exception to other states? this is the answer: *none of her public works have been completed*, as originally designed and projected, when they were presented as recipients for public favor and for public and private investment of capital. Yes, after the perpetual application of funds for a period of over 20 years, not one of the four great public improvements of the state, has to this day produced a connection between Baltimore and any state, or district of country valuable for its products, trade or passengers.

All the half finished works of Maryland combined have failed to benefit her or to pay interest on their cost; any one of which would, if completed, have conferred prosperity and honor upon the state.

To render more apparent the truth of what has been asserted, let us examine the aspect of the *four* great works of the state, viewed with reference to their completion according to the original design of their projectors.

The Baltimore and Susquehanna railroad, denied its proper and legitimate termination, by the adverse legislature of Pennsylvania, seeks a precarious trade and revenue from the districts of country through which it passes.

The Susquehanna Tide Water canal, failing in almost its first conception, and falling still-born at Havre de Grace, instead of measuring its full and perfect length across the county to Baltimore, is now actively and mischievously diverting to Philadephia a profitable trade intended for Baltimore and formerly engrossed by her merchants.

The Chesapeake and Ohio canal, unfinished and languishing, drags its slow length along the valley of the Potomac. Like her twin sister of the Susquehanna, guiltless of good to Baltimore, but all-powerful for harm, this great work—a nation's offspring descended to a state's paternity, has not been vivified, and strengthened by one morsel of that exhausted ailment—coal, which it has craved for so many generations, nor enriched by that exceeding fecundity of the great west, which was expected to confer wealth, not only upon Virginia and Maryland, but to distribute benefits and blessings over the whole Atlantic coast.

The Baltimore and Ohio railroad.—The great vertebre of the state's strength and prosperity, has not, after a growth of 20 years,

yet commenced her great struggle with the dark recesses and rocky barriers of the almighty Alleghenies.

Every citizen of Maryland now knows and feels the evils of that policy, originating in vicious and mistaken legislation, which permitted the simultaneous progress of so many expensive improvements—made too in *duplicates* to accomplish but *one* end.

This very excess of effort, setting up one work as rival to another for the same trade, all produced by a contrariety of interests in the state—more fancied than real, and by her unfortunate geographical divisions of territory, have brought upon Maryland her present financial disasters.

If nothing but deep injury has been inflicted on the state, by an indiscriminate and diffusive expenditure, the true remedy is obvious; it is concentration of effort and capital, to the completion of one work at a time, beginning with that which will cost the least, and benefit the city most. Let the citizens of Baltimore *will it*, that a united effort shall be made to finish the Baltimore and Susquehanna road to Harrisburg, and to extend the Baltimore and Ohio road by a *simple* stem to the Ohio river. Shall the extension of the latter work be defeated or postponed by a difference of views as to the most suitable point of termination on the western waters? for any cause which divides the capital of Baltimore on this question, virtually defeats or injures the road. Shall not the citizens of Baltimore and Maryland—impatient of delay in the completion of her favorite improvements—delays which have already swept off one generation of time—now ask their public men, with a measuring emphasis, if the prosperity of the state and city are to be forever jeopardized by a fatal rivalry of interests, and divisions of counsel and legislation? If union of views, capital, confidence and hopes are to be always denied her?

Perhaps no errors on the commentary committed can be more striking than the fact that the capital which Maryland and her citizens have expended in rival works, would have been sufficient, if concentrated, to construct a *continuous line of railroad* from Baltimore to Cincinnati, and another from Baltimore to the coal basins above Harrisburg.

Any one can appreciate the enviable position we would have taken among our sister states, had the fortunes of Maryland been thus directed.

But let it be no reproach to Maryland that she has committed mistakes; let her look round among neighbors; consider if they have been more exempt and infallible; and take comfort by a comparison with them.

New York—like herself, the great pioneer in public improvements—is yet employed in removing the defects of her first "big ditch," by the substitute of an "enlargement;" and the city of New York, fearing still to rely upon that, is, by the aid of the state, constructing an Erie railroad, which, like her canal, will yet be the first continuous road completed from the Atlantic waters to those of the west.

Pennsylvania, too, discovering the mistake she made by adopting broken lines of alternate roads and canals for her connection with the west, has just started in a new career, and proposes to push, with vigor and singleness of purpose, a new railroad from Philadelphia to Pittsburg.

Where other states and cities have had courage to remedy the defects of an inexperienced policy, Maryland and Baltimore cannot fail to exhibit corresponding energy and alacrity in rectifying errors; especially while the advantages of *position* remain to her now as they were so clearly demonstrated to exist in 1824.

It is true, with her population and resources—humble in comparison with those of her great rivals, Pennsylvania and New York, and from a mischievous diffusion in the application of those resources hitherto, and without return of interests to reimburse her;—Maryland and Baltimore have had much reason to feel discouraged—and so feeling, what wonder, if the unthinking and the irresolute should, *even now*, doubt the wisdom, the ability, or the worth of making further exertions in aid of the public works; or should even be brought to doubt also, if the long boasted advantages of geographical position, actually exist at this moment as they did 20 years ago Her people may doubt, divide, hesitate or change, but the great features of nature remain unaltered; the valley, the river, the mountain, latitude and longitude forever maintain the same relative positions, and hence Baltimore can *yet* reach the heart of the mighty west by a shorter line of road than can *ever* be formed from Philadelphia to N. York; unless, with suicidal policy, she voluntarily abandans her southern connection, with all its advantages of distance, and better navigation of the Ohio, and rashly seeks a desperate rivalry on their own terms, with the enterprise and superior capital of Philadelphia, and New York, and *Boston* too, by taking her stand on Pittsburg and lake Erie, instead of on the lower Ohio. For a branch to Pittsburg can surely have no object adequate to its cost, unless to be continued to lake Erie, to compete there for a divided trade with powerful rivals—but admitting the benefits of a mere connection with Pittsburgh to be all that are contended for, those benefits can all be obtained by the York "extension" at a cost of half a million; will it therefore be wise to expend millions for the same connection by another route in no wise superior?

It will be a fatal mistake to close our eyes to the vast future, and consider the Baltimore and Ohio road as *completed*, when it strikes the Ohio at *any point*. It will then have made but half its progress westward, and it is this consideration which must be kept in view, or the proper point of striking the Ohio river will not be discerned.

This question can best be settled within the mind of any one, by a map, on which he cannot fail to perceive the advantages of a southern terminus.

If after all, convictions in favor of a Pittsburg terminus prevail: then vast labor and expenditure of capital will be saved, inasmuch as the Baltimore and Ohio road need not be continued west of Cumberland, but be left to repose in the lap of the coal region, and make "the best" of a local trade; for let it be borne in mind, Pittsburg is *now* connected with Baltimore: and will be further and better connected, as soon as the Pennsylvania Central railroad is finished, and the York extension made to Harrisburg.

A dispassionate consideration of this great question—involving more deeply the future interests of Baltimore, than aught which has yet been done, will, all must hope, lead soon to unanimity of counsels and concentration of capital on those works most conducive to the public welfare.

I have no apology for offering the aforegoing remarks, believing every citizen should frankly state his views and opinions on important questions, as opportunity offers.

I have the honor to be, etc., etc.,

I. R. TRIMBLE.

Vickers' Improvements on the Manufacture of Iron.

The London Mining Journal gives the following account of the improved process of Wm. Vickers, of Sheffield, in the manufacture of iron.

[Specification of patent granted to William Vickers, of Sheffield, for improvements in the manufacture of iron.—Patent dated June 19, 1847.]

This invention relates to the manufacture of wrought iron, and consists in melting pig iron with wrought iron, and running the melted mixture (when divided into streams,) into water; and then, by the ordinary process of manufacture, in converting the product into malleable or wrought iron. In order to explain his invention as completely as possible, the patentee describes the means by which the same may be carried into practical effect, by a statement, which is in effect as follows:—He causes pig iron to be melted with a scrap of wrought iron, or turnings, in any suitable furnace, and states that he has used for that purpose a cupola furnace; and also that the proportions of such mixture of wrought iron with pig iron may vary greatly, but that a very small addition of wrought iron to pig iron, run into water, will be found to produce a great improvement in the quality of iron manufactured therefrom. Sometimes he employs the following proportions:—To 30 parts of wrought iron he adds 70 parts of pig iron, by weight; and, although this may not be found to answer for some purposes, still, for ordinary purposes, it has been found to answer well. If, however, the iron should be intended to be made into steel, it will be necessary to increase the proportion of wrought iron, by mixing with the pig iron about 40 per cent. of wrought iron. He further states, that in the manufacture of iron intended for general purposes, he has used, with advantage, a mixture of 30 per cent. of scrap of wrought iron, or turnings, with pig iron; and such mixture, when melted, may be divided into small streams, and run into water, in any convenient manner. For this purpose, the patentee states he has used the following arrangement:—He takes a cast iron tray, perforated with holes of half an inch in diameter, and this he lines about half an inch thick, with a sand, or composition, such as is used for stopping cupola furnaces

with; and he punctures this composition with holes about a quarter of an inch in diameter—such punctures being immediately over the holes in the tray, and then places such tray about 15 feet above the level of the water in the tank (employed for solidifying the iron,) which is of wood, and about 4 feet deep; and the melted metal passing from the furnace through the perforated tray, into the water in the said tank, will be found therein in a divided state. This product he uses in the manufacture of wrought iron, and treats it as in the manufacture of wrought iron from pig, or refined iron. The patentee adds, that he has used with advantage, in the melting of pig iron with wrought iron, from three to five per cent. of black oxide of manganese, which he believes will be found to be advantageous. This may be added from time to time, by placing small pieces in the tuyere holes—the blast dividing it into the furnace as the mixture becomes melted. Having described the nature of his invention, and the manner in which it may be performed, the patentee states that he does not claim the melting of wrought iron with pig, or cast iron, nor the running of melted cast iron into water, when separately considered; neither does he claim the precise mode set forth, so long as the peculiar character of his invention be retained; but what he claims, is melting pig iron with wrought iron scrap, or turnings, and then running it into water, and using the product in the manufacture of wrought, or malleable iron.

Another Rotary Steam Engine.

The following notice of a new rotary engine is found in the Railway Chronicle of 22d January.

Mr. Elijah Galloway has brought out another patent rotary, which is now at the factory of Mr. Tyrrell, engineer, Deptford, where it has been inspected by the leading officers of the steam department of the royal navy. It is in working operation, being employed to drive the blower of Mr. Tyrrell's furnace, which is calculated to require about four horse power. The economy of weight and space proposed to be gained will at once be understood, when it is affirmed that the whole of this four horse engine (without the boiler,) would not occupy much more than half a hat box, the actual dimensions of what may be called the piston being only 9 in. by 4 in., and the weight of the whole box being between 2 and 3 cwt. A steam pipe from the boiler brings the steam into this little receptacle, an excentric crank is turned by the rotary motion within it; and here is all the machinery said to be necessary to propel the largest engines, whether mining, marine, or locomotive. The adaptation of the interior of the little box may be described to consist of five segments of circles of highly polished steel, so arranged that the abutments and pistons, or acting arms (also of steel highly polished,) bear on each other so as to secure steam tight contact without any packing. The patentees state that their engine makes 400 revolutions in the time the reciprocating engine makes 200 revolutions, with the same rate only of expenditure in fuel—power for power; and further, that the number of revolutions made in a given time, do not sensibly affect the power. One of the most common defects in rotary engines has been their tendency to leakage, whereby a continual loss of power has been sustained. The new engine, on the contrary, is perfectly steam-tight. It works, it is reported, at a high velocity, without any perceptible friction; it has no "dead point," and works at full power up to the size required. The engine at Mr. Tyrrell's has been tested in various ways, viz:—at the engine workshop of the Great Western, at Paddington, where it was employed to drive the lathes and other machinery during the repair of the company's own engine, and subsequently at the workshop of the Earl of Orkney, at Taplow Court, Berks. The alleged economy of water and fuel will be the point upon which the merits of the invention mainly depend; and it is perhaps to be regretted that the little engine at Deptford is supplied with steam from a boiler of ten horse power, instead of having a boiler of four horse power especially adapted to its size. The patentees are about to construct a larger engine on the same principle, with a boiler of proportionate size, and the opportunity will then be afforded in the most practicable way, of measuring the consumption of fuel with the power of the engine, and the amount of work actually performed. Messrs. Lloyd and Hughes, of the government steam navy department, in Somerset House, have so far reported in its favor, that the admiralty have requested Capt. Fitzmaurice to send in an estimate of the cost of fitting the *Minx* with an auxiliary engine of 50 horse power. The *Minx* is a vessel of 300 tons burthen, and is, it is said, to be furnished with a screw propeller, which the rotary engine is supposed to be peculiarly well fitted to drive. The actual dimensions of this new engine of 50 horse power would be not more than 31 in. by 10 in., the velocity being calculated at a mean of 300 revolutions per minute. The substitution of the new rotary engine on board the *Minx* for the engines at present ordinarily used, would, it is calculated, lighten her, in respect of machinery alone, about 50 tons, leaving out of calculation altogether the economy of space and fuel. Should the merits of Mr. Galloway's invention be such as to lead to its adoption in the royal navy, it will necessarily add greatly to the effectiveness of our war steamers, many of which cannot fight with their lower deck guns in rough weather, in consequence of the immense weight of their machinery and coals.

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T.
Kensington, Philadelphia Co., March 12, 1848. 11tf

NOTICE! GREAT CENTRAL ROUTE, via Cumberland and Baltimore.—To facilitate further the travel upon this route, the Baltimore and Ohio Railroad Company, in conjunction with the lines of stages upon the National road, will commence on Monday, the 27th of March, to run a SECOND DAILY TRAIN OF CARS and LINE OF COACHES over the route, leaving Baltimore at 4 P. M., and Cumberland at 7½ P. M., on every day of the week.

The coaches upon the National road will henceforth leave Wheeling regularly twice a day at 6 A. M. and 6 P. M., and Cumberland at the same hours, connecting regularly each way, with the morning and evening boats at Brownsville. By this arrangement, passengers arriving at Baltimore from Philadelphia at 2 P. M., may proceed westward, after a delay of but two hours, instead of lying over until next morning. Passengers coming eastward, and arriving at Wheeling, or Pittsburg, or Cumberland, too late either for the morning or evening line, will be detained but 12 hours at most, instead of 24, as heretofore. Great additional despatch will thus be given to the travel upon this route, already the most expeditious between the east and west, and the passenger may always make his choice of the day or night for passing over either the railroad or the turnpike section of the route.

By order, WILLIAM S. WOODSIDE,
2t13 *Master of Transportation, Baltimore and Ohio Railroad.*

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NORW CH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames,* and on the line of the *Norwich and Worcester Railroad,* established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

DAVIS, BROOKS & CO., NEW YORK, offer for sale:
150 tons Railroad Iron, 60 pounds per lineal yard, of an approved pattern, and in long bars; also,
500 tons, ditto, expected to arrive in the month of April next. 6t8

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

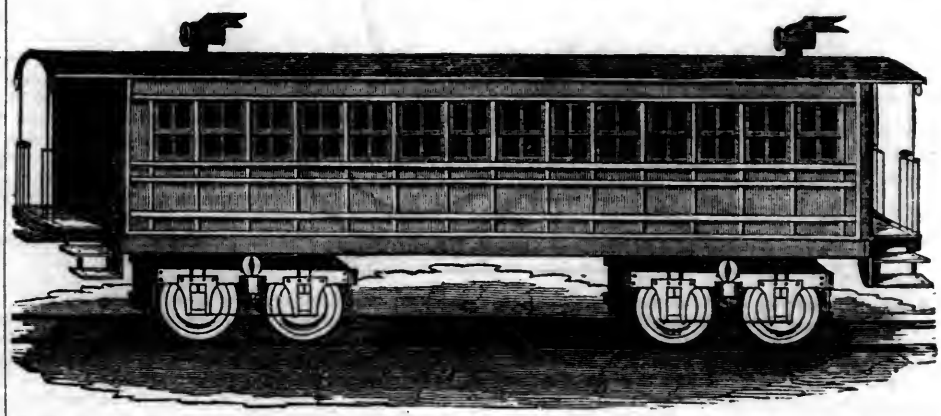
Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

GEO. W. TOWNS, *Governor.*
WM. L. MITCHELL, *Chief Engineer.*
Atlanta, Ga., January 24, 1848. [7t6]

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by
A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja15

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

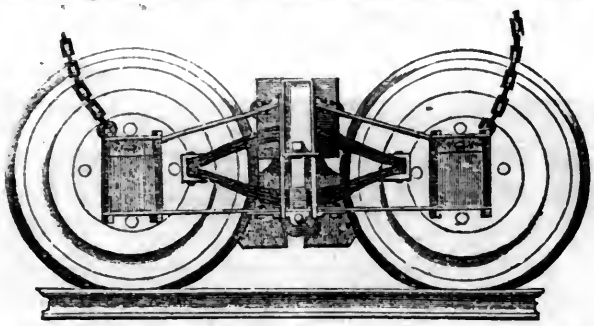
SAM'L KIMBER & CO.,
Willow Street Wharf,
1tr Philadelphia, Pa.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2¾	5	2	6½	9	4	13½	1-2	7½
16	2¼	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

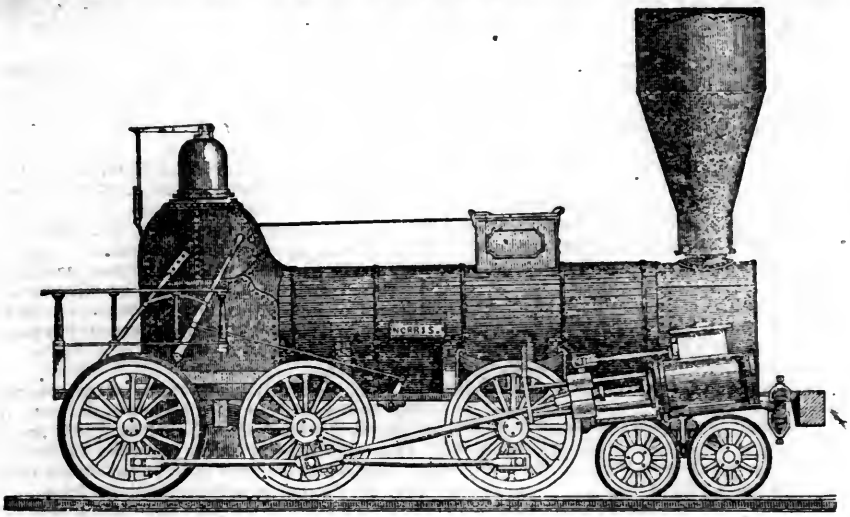
The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

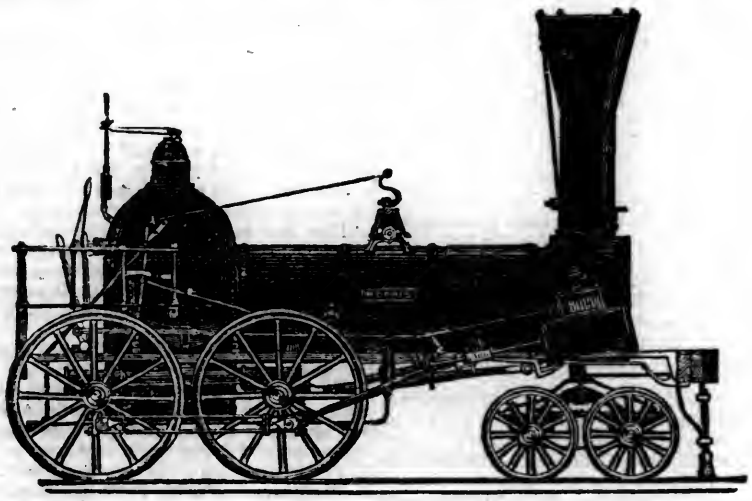
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J
25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.


WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

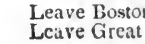
MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.

1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:



Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—




Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS. the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

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CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between




Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on




Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

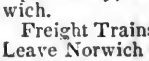
Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as




follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 n. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

15tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton,



and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

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WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sun-




days excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to

1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1817. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road ..... 32 "

From Bellefontaine to Sandusky city by railroad ..... 102 "

Fare—From Cincinnati to Lebanon $1 00
" " " Xenia 1 50
" " " Springfield .. 2 00
" " " Columbus ... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at ..... 9 a.m. and 3½ p.m.
Arrives at ..... 9 a.m. and 6½ p.m.
Leaves York at ..... 5 a.m. and 3 p.m.
Arrives at ..... 12½ p.m. and 8 p.m.
Leaves York for Columbia at .. 1½ p.m. and 8 a.m.
Leaves Columbia for York at .. 8 a.m. and 2 p.m.

FARE.

Fare to York $1 50
" Wrightsville 2 00
" Columbia 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg $9
Or via Lancaster by railroad 10
Through tickets to Harrisburg or Gettysburg .. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at ..... 5½ p.m.
Returning, leaves Owing's Mills at ..... 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35 1y

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CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic ..	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pitsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pitsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally ...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime) ...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

Winter Arrangement.

Philadelphia for Baltimore...8½ a.m. and 4 p.m.

Baltimore for Philadelphia...9 a.m. and 8 p.m.

Connecting with Mail Lines North, South & West.

On Sundays, only the 4 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.

Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.–Philadelphia to Wilmington, 8½ a.m., *mail*, 1½ p.m., 4 p.m., *mail*. From Wilmington to Philadelphia, 8 a.m., 1 p.m., *mail*, 6 p.m., 12½ a.m., *night mail*.

I. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,

57 THREADNEEDLE STREET, LONDON.

13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS

FOR

PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

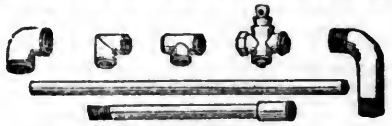
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.

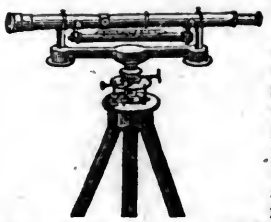


Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y•21

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER,

and

ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS, } SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 15] SATURDAY, APRIL 8, 1848 [WHOLE No. 616, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, April 8, 1848.

The Journal, Its Subscribers, and the Editor.

In *some instances*, and from causes beyond the control of the subscriber, or the editor, accounts for the Journal have been allowed to run along year after year, until $15 or $20 were due, when an order has been received from the postmaster to discontinue sending it, as the subscriber had removed. In this way, during a period of *fifteen years*, a very *considerable* amount has been lost, or in other words, *not received*; and there are now on the books of the Journal quite a number of accounts of from *three* to *five* years standing, amounting, in the aggregate, to *many hundred* dollars, which, *together with the current year's subscription, if paid in advance, according to the terms*, would enable us to get new type, and make other important improvements, especially the employment of *able editorial* assistance for the future, as well as to visit personally all the principal railroads and canals in the country, during the ensuing two years.

To accomplish these objects, if possible, a *bill* and *prospectus* will be sent by mail to each subscriber whose account is not paid up to January, 1848, in the hope that, on knowing the amount due, he will remit it without delay—and possibly at the *same time* send in a *new* subscriber, and thus give both "aid and comfort" in a *tangible* way. To those owing only for the *current* year, we say—shall be pleased to *hear from you soon*, and equally pleased to see all at our office.

☞ Our subscribers in *Canada* will please bear in mind that we have, during the postal *disarrangement*, to pay postage *to the line* on their Journals, therefore we look to them to remit for the current year without delay.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermediate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

Self-acting and Self-relieving Railway Brake.

We have frequently, within the past year, called attention to the subject of a *self acting brake* for railway cars; and we are more deeply impressed, as we receive accounts of accidents on railways, of the importance to the traveller, and also to the railway companies, of a self-acting brake—or which may be brought into use by the locomotive, in case of an emergency, without relying upon manual labor. It is by no means an uncommon thing for the brakeman to be, and sometimes the conductor is, thrown from the cars, when the hand brake becomes useless, as there is no one to use, or apply it—whereas, if the brake was so constructed that, by reversing the engine, it would be brought into use, and to bear upon each car in the train, even though there was no man on the platform, a train might be stopped, and serious accidents thereby prevented.

From indications which have reached us within the past year, we are induced to believe that the subject is under consideration by several gentlemen of ability, and we look with considerable interest to the maturity of their plans.

We have now before us a model, and specification, of a "self-*detaching* brake," as it is termed in the patent, but what *we* term "self-acting and self-*relieving* brake"—self-acting, because it is brought into use whenever the train *presses upon* the engine, and it is therefore under the control of the engineer, who can at any time bring every brake in the train into instant use—and self-detaching because, when the train is brought to a stand still, and it is necessary to run back, the pressure of the brake upon the wheels is relieved, by their reversed motion.

The apparatus of each car is complete in itself, and there is no connection from the brake on one car to that on another, so that there is no trouble in connecting or disconnecting them.

When a train of cars has got to the end of a trip, and is to return, by lifting a lever, and shoving, or drawing a rod—and this can be done to a train of cars as fast as a man can walk—the apparatus is ready for use on the return trip.

The inventor of this ingenious brake, is Mr. John Lahaye, who has been for some time employed as engineer, or engine driver, on the Baltimore and Susquehanna railroad—and if it should not be found too complicated, or too expensive, in application, for general use, we think it will be a valuable appendage to railway cars. Its operation, when re-

versing the motion of the train, is beautiful, as the first reverse movement of the wheels, to which the brake is applied, throws it *out* of gear, and the train may be run back as far as desirable without being interfered with, but the moment the train again advances, the brake is ready for use, and may at any time be brought to bear upon the wheels of the cars, just in proportion as the momentum of the train is resisted by the reversed motion of the locomotive. It is our *opinion* that if brakes of this kind had been attached to the cars on the New Jersey railroad, the engineer could have avoided the sad accident which recently occurred there, as every brake could have been brought to bear the moment he *reversed* his engine, and thus the loss of *life*, and the engine and car, would have been avoided. We cannot, however, always judge from the model, what a machine will do, and therefore we hope the inventor will apply it to a train, and thus test its utility.

The Iron Trade.

Glasgow, Feb. 18th.—The Scotch market for pig iron has rather improved this week, there having been little pig iron offered for sale; and if holders only keep firm, a slight further advance is anticipated. Quotations are 50s. 6d. for mixed numbers, and 51s. 6d. for No. 1, cash.

Birmingham, Feb. 19th.—Large numbers of the mill men have returned to their work, but the great difficulty is with the puddlers, always the most obstinate, for the reason that, receiving the highest rate of wages, they are generally in funds for a few weeks' holliday. On their course much depends, because, unless they procure the iron, there is little work for the mill men to perform. On the Worcestershire side, says the Daily News correspondent, however, in the neighborhood of Stourbridge especially, it is satisfactory to be enabled to announce that they have yielded during the week, and have returned to work at reduced wages. The very large works of Mr. J. Foster were again put in gear on Tuesday. The following day the Messrs. Wheeley put 11 furnaces again in blast; and in the neighborhood of Brierleyhill many of the most extensive works and manufactories are once more in motion.

Glasgow, Feb. 25th.—The market for pig iron, which showed great firmness in the beginning of the week, has given way a little, in consequence of the news from France. Yesterday mixed numbers were sold for 50s. cash; to-day 3-5 No. 1, and 2 5 No. 3, are freely offered at 50s., without finding buyers; 500 tons No. 1 were sold at 51s. 6d.

Cleveland and Pittsburg Railroad.

The Hudson (Ohio) Observer says that "thirty-two miles in addition, of the Cleveland and Pittsburgh railroad were let on Friday last at Ravenna. Forty-four different proposals were received for the whole or part of the line offered—a considerable number accepting in payment a portion of the stock. The accepted bids were considerably below the estimates; and yet were at such rates, and by men of such responsibility, as to ensure, in the judgment of the board, the prompt fulfilment of the contracts.—The amount of the lettings for the 32 miles was somewhat less than $80,000.

"We are much gratified to be able to say that the prospects of the enterprise are exceedingly flattering. More than fifty miles of the road, which is more than half the whole distance from the river to the lake, are now under contract, and nearly twenty considerably advanced towards completion. The rest of the road, from the river to Hudson at least, will be offered to contractors as soon as it can be prepared by the engineers. The road will, we are authorized by known facts to say, be pushed steadily forward to completion.

"We feel bound, in justice to the engineers, to say here that the preparation of the work for letting was most thorough and complete—such as to draw forth the warmest commendation of t ractors. With such engineers, said one to us, it would never be necessary to go over the ground to estimate the work."

This looks like doing the thing up in good style. The people of Ohio are awake to their true interest, and appear resolved to have railroads as well as canals—and the present indications are, that the State will be chequered with railroads in a few years.

New York and Philadelphia Railroad Fare.

The Scientific American says that "a resolution, highly interesting to the whole travelling community, has been adopted by the New Jersey House of Representatives, instructing the State directors of the Camden and Amboy railroad to insist upon the establishment of a daily line between New York and Philadelphia, running at convenient hours, by way of Camden, New Brunswick, etc., at $3 fare. The law now prescribes that the company shall not charge over $3, but it is evaded by the road crossing the Delaware at Trenton, and continuing the remainder of the way on the Pennsylvania side, upon a road that is charterdd by that State."

It will be no easy matter for the legislature of a State, which is carried in the *breeches pocket* of a naval officer—especially if he happen to be on the *California* station—to accomplish much in the way of recovering what they have sold for a mess of pottage—at a loss of millions to the State; yet we hope they may succeed in accomplishing even the *little* they now propose. They *ought* to go much farther, and enable *competition* to reduce the fare to $2 50—or $2—and freights in proportion— then Jersey lands would be valuable.

Working Expenses of the London and North Western Railway.

The gross earnings of this road for the half year ending December 31st, 1847, were £1,130,129; the working expenses, exclusive of taxes, 33½ per cent., or £378,771, and *including* taxes, 38 per cent., or £437,031, showing the payment of taxes, duties, etc., of £58,260. This is an exceedingly low proportion of working expenses to earnings, and allows a dividend of 8 per cent. per annum.

The increase of the traffic account was £38,000 over 1846. The capital account of this company shows a total to this date of £21,882,801 15s. 4d.; shares £13,277,227, and loans £8,605,574! or over £108,000,000!!!

Illinois and Michigan Canal.

"A Chicago correspondent of the Alton Telegraph estimates that six hundred buildings will be erected there during the present year. The canal is by this time completed, and it is anticipated that boats will be running by the 1st of April, or as soon thereafter as the rates of toll can be fixed. As a piece of work the canal is said to be the best in the Union. A line of beautiful packet boats have already been completed at Chicago, besides numbers of line and freight boats. Many are also building along the line of the canal."

We find the foregoing paragraph in the Cleveland Herald. It reminds us forcibly of the early movements, in relation to this work. There were then two parties in Illinois, in relation to this line—one for a *canal*, and the other for a *railroad*.

In the winter of 1832, just after the first number of this Journal was published, we were called upon by a gentleman from Springfield, by the name of *Pugh*, who was on a visit to New York and Washington, we believe, in relation to the subject. We then took ground for a *railroad*, between *Chicago* and *Alton*, via Springfield, for two reasons: first, because it could be used *twelve*, instead of *nine*, months in the year—and because if a canal should be built first, a *railroad* would have to be built *afterwards*; and we are of the same opinion still, notwithstanding they have got one of the very best canals in the world.—They MUST *have a railroad*, notwithstanding the canal.

Cast Iron Bridges.

The failure of the Dee bridge has very naturally excited much interest in England.

In the House of Commons, on the 18th February, "in reply to Mr. Osborne, *Mr. Strutt* stated that after the failure of the Dee bridge, the company had immediately applied temporary supports. The government inspector recommended that while the bridge remained with these temporary supports, trains should not pass over it except at moderate speed; it would then be perfectly secure. With a view to prevent similar accidents, a commission had been issued to consider the principles on which cast iron bridges, for railway purposes should be constructed. They could not come to a satisfactory conclusion without experiments on a large scale; and the means of making those experiments had been placed at their disposal by the government. He trusted the result of their inquiries would be satisfactory.—Very shortly after the accident, the commissioners sent circulars to all companies, recommending them to make a report as to the cast iron bridges on their lines, and the nature of their construction. On one railway, where the construction was similar to that of the Dee bridge, the scale was much smaller, and therefore the stability of the construction was greater—yet temporary supports had in all cases been resorted to, and no danger need be apprehended."

A Good Project.

The Boston Traveller says that, "the authorities of one of our roads, whose president is a thoroughly practical man, are organizing a system of cheap travelling, for the thousands in our city and outskirts who are at present, in a measure, deprived of healthful exercise of this kind, through lack of means." The plan is said to resemble cheap steamboats, etc., of London, who carry thousands of the working classes of that city, into the villages, at the very cheap rate of from one to three pence each. "This plan, says the Scientific American, would enable hundreds and thousands of our working classes to make an excursion of five or ten miles, at an expense stated of three cents per head each way. It is also stated that the plan will be tried the coming summer. It will, without doubt, if fairly tried, be of great benefit to the people at large and profit to the originators."

Extraordinary Locomotive Speed.

The Railway Gossip of the Chronicle says that, 'The statement made by Mr. Hudson at the Midland and York meetings, of the extraordinary express from London to Edinburg and Glasgow will be read with interest. This special express, which was arranged by Messrs. W. H. Smith & Son, news venders, Strand, left London at 5 35 a.m., with the newspapers of the day, containing Lord John Russel's financial statement and the debates in parliament of the preceding evening, and reached Glasgow at 3 57 p.m., completing the journey of 472½ miles in the incredibly short space of 10 hours and 23 minutes. The detentions amounted to 50 minutes including 8 minutes occupied in passing from Gateshead to the Newcastle station, and 7 minutes in passing from Tweedmouth to the station at Berwick—thus reducing the actual railway travelling to 9 hours 32 minutes., being at the rate of 50 miles an hour! Not the least amusing circumstance connected with this express is that it arrived in Edinburgh an hour and a half, and in Glasgow two hours, before the

mails which left London the preceding evening.—The regularity with which the entire proceeding was carried out was extremely creditable to the managers and superintendents of the respective lines, and proves the great efficiency of their working staff. The total number of miles run by Messrs. Smith's expresses on that day was 585¼.

New Locomotive, Four Wheels, Seven Feet.

A new locomotive called 'Lablache,' in honor of the great buffo, and constructed by Messrs. Wilson, of Leeds, has lately been performing some very remarkable feats of power on the Midland railway. "We have been assured," says the Railway Chronicle, "on excellent engineering authority, that it has been running between Rugby and Leicester with three carriages, at an average speed of 75 miles per hour. The same engine has taken a load of 400 tons, at an average speed of 30 miles per hour, which is even a still more remarkable feat. It runs upon only four wheels, each of seven feet diameter; and its motion is described as being remarkably easy and smooth. The wheels are 16 feet apart, and were at first hung on Indiarubber springs. It was built as an experiment, and its success has been so signal that the Midland have not only been tempted to purchase it, but to order others of a like character. If the railway board possessed a little more practical experience of facts like these, they would, perhaps, be rather more cautious in their patronage of broad gauge extensions. Great speed being the only recommendation of broad gauge eccentricity."

Lake Erie Steamboats.

A magnificent lake steamer, says the Scientific American, to be called the "Empire State," is to be brought out next season, to run between Buffalo and Chicago, and is to recomplish the trip in 60 hours. She is to be 310 feet long, with a breadth of beam of 37 feet, and 1650 tons burthen.

Merrick & Town, of Philadelphia, have the contract for the engine, which is to be of the style and finish of that on the "Isaac Newton," with a 76 in. cylinder, and a stroke of 12 feet: wheels 40 feet in diameter, buckets 10 feet face. She will have ample accommodation for 400 cabin and 1000 steerage passengers. In addition to the magnificent saloons and cabins, she is to have some 100 family and state rooms—all furnished in a style of elegance and comfort.

We should like to see the ghost of the "Walk-in-the-water"—or the first steamboat on lake Erie, built by *Noah Brown*, of New York, for *Gilbert Stewart*, and *Dr. J. Bradner Stewart*, of Albany, in 1824 or 5, we believe—appear to this "Empire State" on her first trip.

Cast Iron, Chilled and not Chilled.
Comparative Strength.

Some experiments made at the Crane Foundry—says the Railway Chronicle—on the relative strength of cast iron, chilled and unchilled, showed that the process of chilling gave a superior strength of 17 per cent. The following experiment was tried on four bars, cast in the form of a double faced railway rail, 1¼ inch deep, ¼ inch wide at top and bottom, and ¼ inch in the centre—the length of each bar was 18 inches, and 15 inches between the supports. No. 1 was cast in green sand; No. 2 in dry sand; No. 3 cast in a chill; and No. 4 in a chill and afterwards annealed. No. 1 weighed 32·5 oz., bore 1,332 lbs., and deflected ·130 in. No. 2 weighed 30·5 oz., bore 1,008 lbs., and deflected ·114 in. No. 3 weighed 34·75 oz., bore 784 lbs., and deflected ·953 in. No. 4 weighed 34·5 oz., bore 2,520 lbs., and deflected ·148 in. The advantages in favor of cast iron treated as No. 4, is evidently little less than 100 per cent. over No. 1, and 300 per cent. over No. 3.

Working Steam Expansively.

A writer in the Scientific American says that "a knowledge of the advantages of working steam expansively, although understood by all engineers, yet may not be uninteresting to many others, especially when made plain—a thing which too many abstruse geniuses never fail to make a wonder of, where ne'er a wonder should be. When steam is used from the boiler, say at 30 lbs. to the square inch, for each foot, and throughout the centre stroke, which is ten feet, we shall have a total amount of power, 30 lbs. multiplied by 10 feet =300 lbs., which, if we take ten lbs of coal to generate that amount of steam power, then we have 300 lbs. divided by 10 lbs. of coal, showing that 1 lb. of coal gave 30 lbs. of power. Now suppose the steam from the boiler was the same as before, and being admitted in the same cylinder, but was cut off when the piston had gone only 6 feet, then the thirty pounds for 6 feet of the stroke would be 180; now by taking the 180 lbs. as a constant number, we divide it by 7; the 7th foot of the stroke of the piston we have as the expansive force of the steam.

Different feet strokes:—

10, 9, 8, 7)180 =25 5
8)180 =22 4
9)180 =20
10)180 =18
Add for 6 feet of stroke 180

Pounds of steam, 265·9

"In other words, by cutting off the steam at three-fifths of the stroke, there is a whole power of 265 9 lbs. of steam at the expense of 6 lbs. of coal, or a loss of only 34·1 lbs. of steam for a gain of 4 lbs. of coal—nearly one-third—a gain for every pound of coal of 14 3 lbs. of steam, as follows:—

Full stroke..... .....10)300· =30·
Cut off and expansion, 6)265 9 =44 3

Minus full stroke.....14·3 lbs.
Or gain cut off.....14·3 "

"A saving of 16·4 per cent. of fuel, but not, as some have expressed it, 'a gain of power in the stroke.'"

This matter is not generally understood.

Iron Suspension Bridge in Russia.

The London Mining Journal says that "a contract having been entered into between the Imperial Russian government and Mr. Vignoles, the engineer, of Trafalgar square, for the construction of an iron suspension bridge over the river Dnieper, at Kieff, the first shipment of machines and iron work to be used in its construction was made at Liverpool a few days since, in the British barque Flirt, Capt. Dove. Our readers are aware that the Dnieper follows a course of about 800 miles through the Russian dominions, before emptying itself into the Black sea. With the exception of about 40 miles, where it is interrupted by cataracts, it is perfectly navigable.—The articles shipped consist of various massive pieces of iron, of prepared forms, the packages being numbered from 1 to 320, and weighing, in the aggregate, 274 tons. They consist of sheeting pile, and foundation pile weights, 5 inches diameter shafts and conplings, cylindrical pieces and stands, with bolted pedestals, besides 14 cases of bars and nuts. They have been prepared at a foundry at Bolton, and are consigned to the house of Messrs. Raffalowicz & Co., of Odessa, from whence they will have to be carried in carts, drawn by bullocks, 400 miles, to Kieff."

American Pins.

The Scientific American says that "a dozen years since, all the pins used in this country were imported. Now, none are imported, except a few German pins for the German population of Pennsylvania. This wonderful change has been produced by a concurrence of circumstances—the most prominent of which was the invention, by Mr. Samuel Slocum, now of Providence, of a pin making machine far superior to any then in used in England. Of all the pin companies which have been established or attempted in the United States, only three are known to exist at present, viz: the American pin company, (which has works both at Poughkeepsie and Waterbury, Conn.,) the Howe company, at Derby, Conn., and Messrs, Pelton, Fairchild & Co., of Poughkeepsie. A part of the pins of the American pin company are made of American copper, obtained on the borders of lake Superior."

Traffic Returns, English Railroads.

"From official returns," says the Railway Chronicle of Feb. 26th, "it appears that the amount of traffic for the last week, on upwards of 3,518 miles of railway, was £148,553, thus accounted for:—£68,079 or the conveyance of passengers only, £43,698 for the carriage of goods, and a remainder of £36,776 for passengers and goods together, not respectively apportioned; being an increase of £26,288 over the corresponding week of the former year, when the mileage was 2,711. The average earnings per mile last week were £42, while in 1847 they were £45."

First Boat on Lake Ontario.

James L. Barton, Esq., in a letter recently delivered to the Young Men's Association of Buffalo, gives the following account of the first American boat that ever floated on the waters of the great lakes:—

In 1789, John Fellows, of Sheffield, Massachusetts, started from Schenectady with a boat, its cargo mostly tea and tobacco, with a design of going to Canada to trade. On reaching Oswego, the commanding officer refused him permission to pass that place Fellows returned with his boat and cargo up the Oswego river to Seneca river, up that into the Canandaigua outlet, as far as where Clyde is; here he built a small log building (long known as the block house,) to secure his goods in, while he was engaged in bushing out a sled road to Sodus Bay on Lake Ontario. He then went to Geneva, and got a yoke or two of cattle, hauled his boat and property across, and then in this frail conveyance embarked with his goods, and pushed across the lake. He met with a ready sale for his tea and tobacco, and did well. He crossed in the same boat, and landed at Irondequoit. The boat was afterwards purchased and used by Judge Porter in travelling the shore of Lake Ontario, when making the survey of the Phelps and Gorham purchase.

This was the *first* American craft that ever floated on the waters of the great lakes, now covered with magnificent steamboats and sail vessels, fully employed in carrying on the immense commerce which passes over them.

☞ Fifty-nine years *only* since the first American crossed Lake Ontario in a small boat! Let us add *forty-one* years to that period, and who is bold enough, or sagacious enough to foreshadow the business of that lake?

SOUTH WESTERN, GA., RAILROAD.

There appears to be a decided movement in favor of the construction of a railroad from some point on the Central, or Macon and Western, road to Pensacola. The following extracts from the Macon Messenger, of March 1st, and 22d, give an idea of the movements on the subject.

"*Railroad Organization.*—The new board of directors for the Southwestern railroad, met in this city on the 22d ult., for the purpose of organizing, etc. We learn that in consequence of an increased number of applications for contracts, and also with the view of facilitating the work, the board concluded to change, to some extent, the arrangements entered into by the commissioners. Accordingly, with the consent of those concerned, the heavy contracts were somewhat reduced, and the work let to others. In this way we understand the grading will be commenced immediately, on something like 35 miles of the line; and several planters are now seeking contracts, so that we may safely conclude that the road will be finished to the Flint river in time for the crop of 1849. The subscribers are now paying in the first instalment of five dollars, and the second instalment, as will be seen by the advertisement of Mr. Alexander, will be paid on the 1st of May next. The company may now be regarded as fairly under way, and we have no doubt that the high character of the board will inspire increased confidence in the enterprize, and that the remainder of the stock will be sought after with avidity, by planters, particularly when they find that they can pay a portion of their subscriptions in work, and when it must be apparent that they can make more money on the road, than can be realized from the culture of cotton at present prices."

"*Mr. King, and the Southwestern Railroad.*—We have before stated that the memorial from the citizens of Florida, asking a grant of alternate sections of land to aid in the extension of the Southwestern railroad to Pensacola, had been referred to the committee on naval affairs. In the House of Representatives on the 18th ult., the Hon Thomas Butler King, the chairman of that committee, reported an act granting to the Florida, Alabama and Georgia railroad company the alternate sections of the public lands along said railroad route; which was read twice and referred to the committee of the whole on the state of the Union; and a motion to print an extra number of copies lies over.

"Mr. Collamer moved a reconsideration of the reference to the committee of the whole on the state of the Union, for the purpose of having the bill referred to the committee on public lands. He contended that there was no propriety in having the subject of an appropriation of public lands acted on and reported upon by the naval committee.

Mr. T. B. King explained. The object of the bill was to aid in the opening of an available communication with Pensacola, Florida, which was a most important naval position; and, for want of a proper communication, was subject to capture in time of war by an enterprising enemy. The object being one peculiarly belonging to the naval interests of the country, the subject had been placed in the hands of the naval committee.

"The motion, after some further remarks, was agreed to, and the matter was accordingly referred to the committee on public lands. We should greatly regret if this bill should fail, especially as the favorable action of the government would at the present time insure the completion of the enterprize. A charter now exists authorizing the company to construct the road from Pensacola, to any point on the Chattahoochee. Nor would Alabama now be likely to object to the construction, as the road might be extended to Mobile bay. This, however, may by no means be the case, if action is deferred for two or three years. In this state of the case, the members of the Georgia delegation should be vigilent and active."

"*The Muscogee Road.*—We understand that the city council of Columbus, on Thursday night last, confirmed its previous action, and that the sum of $150,000 has been subscribed to the work on the part of the city. The private subscriptions now amount to $120,000, and the Macon and Western company have agreed to endorse the bonds of the company for the sum of $250,000, provided the work is commenced at Barnesville, and the money expended east of the Flint river, and provided further that the company shall have previously expended upon that part of the said work, in bona fide subscriptions, at least double the amount of the bonds endorsed as above—the value of the work to be ascertained by appraisers chosen for that purpose.

"From this it appears that the company will find it necessary to increase the private subscriptions to $500,000 before the whole amount of the Macon and Western bonds can be made available. This, it is hoped, can be accomplised. It is estimated that the work, complete and equipped, will cost about $1,000,000. Talbot and Upson counties alone could, if they would, furnish one-quarter of the amount. In addition to the vast and acknowledged importanee of the work to the citizens of Columbus, and the Macon and Western road, we cannot doubt that the advantages to the agricultural interest would amply repay the planters along the line for any investment they might make in the work."

"*Public Spirit in Randolph.*—We understand that a proposition is about to be made, by certain citizens of Randolph, to grade the track of the Southwestern railroad extending through that county, and to furnish the superstructure on terms highly advantageous; the parties agreeing to take the stock of the company in payment. Whether the proposition will be accepted or not we know not, but it proves one thing, viz: that the people in that region possess the proper spirit, and are resolved that the enterprise shall not fail.—They have ample means, and are resolved to use them for the development of the wealth and resources of their own section."

It is very desirable to have an easy communication with Pensacola, and we hope congress will grant the lands asked.

"*Railroad Meeting in Florida.*—Some of the opponents of the Southwestern railroad have expressed the opinion that there is no living charter which authorizes the construction of a road through Alabama to Pensacola bay. They are sadly mistaken, but even if they were not, the Southwestern company is entirely independent, as will be seen by the following resolutions passed at a large meeting of the citizens of Mariana, Florida, on the 21st ult.

"Whereas, no portion of the south is more eligible for the construction of railroads than this part of Florida, both on account of its level surface, its adequate supply of water—without the obstruction of large or numerous rivers, and the abundance of timber; affording, too, the shortest as well as most practicable route to the Gulf of Mexico, from the upper part of the State of Georgia, to St. Andrew's bay, one of the safest and most spacious harbors on the gulf coast—

Resolved, That it is desirable, that the projected railroad from Macon, seeking a terminus on the gulf, should traverse this section of the country, and that all proper inducements should be offered to the railroad company to that end--and that the St. Andrews Bay land company and the citizens of Jackson and Washington counties, ought to cooperate for this purpose, which is hereby most earnestly recommended to their notice.

Resolved, That it is the interest of every citizen in this portion of the State, and especially of every planter, to encourage this enterprize by a liberal subscription for stock. That the direct effect of such a road would be to enhance eventually, the value of lands in its vicinity; to increase the immigration to our young State, and develope its resources. That the present exportation of cotton interests from this county, alone, now amounts to 7,000 bales, would be increased in a rapid ratio, by bringing into cultivation large tracts of rich and valuable lands, known as Seminary lands, which have lately been thrown into the market, and other lands which have not been brought into cultivation for the want of a more convenient market.

"Thus it appears that if Alabama should refuse, (an event not probable) to grant the necessary facilities, Georgia and Florida are entirely independent of her action. They can still have an outlet to the gulf over their own territory. But this may not be necessary, as we understand the powers already existing, are ample, and in the hands of men who are anxious and ready to use them."

Remonstrance, Against Reducing Fares on Railroads by Legislation, by the Syracuse and Utica Railroad Comapny.

We ask for this article a careful perusal, and a thorough discussion of the subject.

To the Honorable, the Legislature of the State of New York, in Senate and Assembly Convened:

The memorial of the Syracuse and Utica railroad company respectfully represents, that this company has noticed the presentation of petitions to the legislature, asking for a law to reduce their fare, and the introduction of a bill for this object.

This company is duly organized under a

law of the legislature, inviting the association of the necessary capital and persons for the construction of a railroad between Syracuse and Utica, and it has been the design of the board of directors, to which the management of the affairs of the company have been committed, faithfully to discharge their duties. They are influenced by no favoritism for any locality or interest, by no wish to extort from the traveller an unreasonable reward for his passage, and they trust by none but the motives which should govern honorable men. They have witnessed, from year to year, the fact that applications are made to the legislature to modify and control their business, which, if carried out, they believe would be disastrous to their property. These applications have been met in a spirit of fairness by your memorialists, (with other companies,) and when they have heretofore presented objections to the respective applications, sustained by argument and fact, your memorialists have been generously listened to by past legislatures in a spirit of candor and fairness; we now ask leave to refer to a remonstrance of the several railroad companies in 1843, which may be found among the assembly documents of that year, and is No. 106. Also to another remonstrance in the year 1845,* which may be found among the assembly documents as No. 194.

The last remonstrance named, was referred to the railroad committee of the assembly of the session, and a deliberate examination was bestowed upon all the questions submitted. That committee presented a report on the 15th of April, 1845, which may be found among the assembly documents, and is No. 224. We ask to refer to that report, and to say, that its perusal will well repay the labor and time necessary, and that it will be approved after full and dispassionate examination. It was regarded then, as it must be now, as an able exposition of the relative rights of these companies and the legislature, and in declaring that "this great State occupies too lofty a position, and entertains too just a sense of her imperial character, to repudiate any of the obligations fairly inferable from legislative enactments, in which her citizens and the citizens of other States have placed implicit and unwavering confidence," it but suggests that which will be readily approved by all who reflect.

We trusted that the examination heretofore given to the subject had put it to rest. Finding, however, that the matter is again before you, we are constrained to appear and to urge the objections to the action which is invoked by the petitioners. If these objections are stated at length, and with earnestness, we trust that we shall be heard with forbearance, because, in our view, this question is one vital to their success.

We have heretofore submitted to that which we regarded as a clear violation of our rights, in the statute which imposed tolls upon the transportation of property over our railroad during the suspension of canal navigation. The right to carry property *without* tolls in the *winter*, was distinctly tendered as one of the powers of the corporation. We have thus submitted, under the hope that a further power to destroy our property would not be asserted.

We trust that we are not to meet those who at this day will deny the immense benefits that the railway has produced. "This new element that has been infused into the social, commercial, and political system of the world, the increasing effects of which we can now but faintly foresee," must go on improving and progressing. We cannot go back, nor do without them. The system must go on. Will the State make and own railroads? We suppose there is but one answer—it will not. Who are to make them? Single individuals have not the means, and do not live long enough to construct and manage them, if they had the pecuniary ability. Our laws as to placing property in trust, make some artificial existence necessary for the construction and management of a railroad. It is of little consequence what the association is called, whether a firm, a company, or a corporation. We submit that it is an unsound sentiment, that objects to a railway because a corporation owns it, for nothing else can own it.

When this line of railway was commenced, the legislature declined to make it a State work. The same decision has been adhered to as to other railways. It became indispensable that it should be made, or our great commercial city would have lost the trade of the west. Other railways were conceived and commenced from Baltimore and Philadelphia, and this work was indispensable for our people and for the business of our cities. The State delegated its sovereign power to the corporations who have made the railroads. They make them as the *agents* of the State, for the *public* use. It is upon this ground that they are authorized to take the land of individuals. If the State makes the railway, the public use would be the same as is now enjoyed. It would be no more or less than if owned by a corporation. Whoever uses the railroad must pay for such use, whether the State *is* the owner or not. The law which authorized this railroad contains some prominent provisions. The Attica and Buffalo railroad had been previously authorized by a law. In the provisions for that road it was believed, as has since been found to be true, that its construction would require but a small capital. The provision as to the fare of passengers, in that charter, is as follows:—The corporation *shall not charge a greater sum* than at the rate of *three* cents per mile for the transportation of a passenger and his ordinary baggage.

The law which authorizes the railroad from Syracuse to Utica confers all the privileges contained in the law for the Attica and Buffalo railroad, with this addition. "This corporation may receive a sum not exceeding *four cents per mile* for the transportation of a passenger and his ordinary baggage."

Here was a difference between these charters as to privileges, and when those inclined to subscribe to the stock of either, examined the laws, they saw the difference, and considered the advantages of each proposition. One road would *cost less*, and therefore was limited to a *less fare*. The other would *cost more*, and could therefore *charge more*. The result has shown that one road has cost double the amount per mile to the other. The provision above cited is as plain a *legislative promise* as words can make. It means, we insist, precisely what it says, that this company may charge four cents per mile as long as it is for its interest, or until the State shall take the road under a subsequent provision. The men who subscribed to the stock, who paid their money, and who made the road, believed that they did so, subject to but one contingency, and that is contained in the 17th section of the Attica and Buffalo charter, in which the State reserved the right to take the railroad at any time after ten and within fifteen years from the commencement of its operation, on paying the proprietors the cost of the same with ten per cent. interest, deducting the dividends received. There surely was some meaning in the distinction between the fares of these two companies. The proprietors have the solemn faith of the State thus held out to them, and they are sure that it will not be violated when they thus present their reliance upon it. The State thus deciding to make the road, through the agency of a corporation, and promising four cents per mile passage fare to those who made it, did in principle the same thing, as if it had made the road, as a State work, and borrowed of those who took the stock an amount of money equal to their stock, and had promised them interest payable out of the profits of the railroad. Under such a case, could the State have reduced the fare, without violating its faith? It will be difficult to perceive any difference in favor of the idea that our fare can now any more be reduced; both would as distinctly violate the promise held out, as can possibly be conceived. Will it be claimed that this promise of four cents fare was made with the implied understanding that it might be reduced? Reduced to what sum, we ask? To two cents *this year*, and to one *next*, and all for what? To test a theory? We entirely deny that our rights can be thus speculated upon. When we do thus insist, and refuse to submit our property to test the theory, that low fare will increase our receipts, where is the right or faith, to place our property in jeopardy? The right to alter, modify, or repeal, does not allow the legislature to destroy the guaranty upon which the investment was made. It may be exercised when there is fraud or abuse of privilege by the company, but cannot be exercised in an arbitrary manner without cause.

If the power is possessed by the legislature to reduce our fare, where is it to stop? We think that we have learned that it cannot be reduced, without depriving us of profit, and *that* practically destroys the value of the property; though brokers might still speculate in the stock as they now do in unproductive railroads. If the fare can be reduced

* This remonstrance may be found in the Railroad Journal for 1845, page 250, and our views on the subject in the previous number, page 233.

to a nominal sum, this, of course, it will be claimed, is done for the *benefit of the public.* Thus the people, or the public, or the State, will in fact take it, without paying us for it, according to the section above cited. The railroad will not be annihilated, but it must be used *without profit;* and thus, in place of valuable property, acquired under a reliance upon the laws of a just people, would become a burthen to the proprietors. Can the State take the railroads without paying for them? It can do so, if it can reduce our fare. We submit that it cannot do that, indirectly, which it cannot do directly. We ask particular attention to the 17th section of the act. That section contains precisely the rights which the legislature reserved.

If the petitioners ask to reduce our fare, should they not offer to indemnify us? We claim the faith of the people pledged to us, that we may charge four cents a mile, and also that we may make ten per cent. interest, if we can. It is for this reason that we ask, should not an indemnity be offered? The legislature regarded ten per cent as not an unreasonable profit for the hazard incurred in this business.

If the petitioners shall induce your honorable body to guaranty to us ten per cent., to which we claim to be entitled, then we will test the theory of low fare, as long as the legislature may desire.

Or, if we can have a guaranty that the State will take the railroad under the 17th section, and *thus assure* us that we can have the benefits held out to us by law, then, also, will we test the theory.

It must be familiar to the recollection of many members of the legislature, how earnestly and anxiously the western portion of our State looked to the construction of this line of road, and how its completion was hailed as a blessing to the country.

When it was found that a fare of three cents per mile would not insure the construction of a railroad from Auburn to Rochester, then the legislature promptly offered *four* cents per mile, as may be seen in the act, found in the session laws of 1837, page 9, using the same language, as in the case of this company. *No right to alter this was reserved*, and we say that it is a legitimate inference, that an alteration could not, in any case, be made without the consent of the company, consistent with good faith.

No distinction as to rights between these two companies in this respect exists. There is no reason for any. After examining that act, we think that it cannot be claimed that there is any right to reduce the fare of that company.

When, after the legislature had loaned the credit of the State to the amount of $200,000 to the Auburn and Syracuse railroad company, to aid the construction of their road, and it was found that this was not sufficient, and in the session of 1839, (see laws of that year, page 233,) that company was allowed to charge five cents a mile for *three* years; was not all this in earnest on the part of the legislature.

Is it to be said or claimed, that all this was done to induce those who had the means to advance them, and make the roads, with the suppressed intention of falsifying these *promises* as soon as they had been accepted, and confided in by the stockholders, and are similar promises, in like manner to be hereafter broken to every unfinished work?

We cannot believe that any such intention existed, or that a serious attempt now to break these promises, will be pressed, when the violation of faith is so apparent.

Suppose that instead of promising the then future proprietors of this railroad, that they *may receive* four cents a mile, the promise had been qualified by *saying* that the legislature *might* thereafter at any time reduce this fare, when *properly petitioned to do so.* Would the proprietors have advanced their money on such a contingency? We say that not one dollar could have been raised. No honest prudent man would ever have placed his property in such hazard. We entertain the confident opinion that you cannot successfully invite capital to the most favorable work conceivable, if you openly and fairly say in the offer, that you *reserve the right to reduce the rate of compensation* which you hold out as an inducement. If we are at all right in this, no more now can you reduce our fare, because we say it is inconsistent with right, with fairness, with either individual or national integrity.

We know the jealous care with which the legislature have guarded the faith of the State when held by its *creditors*, and we feel assured that when our position is understood, that a *like care* will guard the same faith to the stockholders of this company.

We desire to present for examination the position of two sets of persons, who have contributed large amounts to construct a part of this line. One set under a law of this State has advanced $200,000 to the railroad company, and has received of the company the certificates of indebtedness therefor, signed by the comptroller on behalf of the people of this State, declaring that the holder was thereby entitled to the payment of the principal sum in twenty years, with five per cent. interest, payable quarterly. To secure this contingent pledge of faith, the railroad company has mortgaged all its property to the State. This set of persons feel *secure*, because, all will say, they have the *faith* of the State, through the railroad company.

Another set have advanced $400,000 under another law of the State, to the same railroad company, and have received certificates showing that they are entitled to all the benefits of this law, one of which was, that they might receive *five* cents a mile of passengers for three years, and after that *four* cents; and they have calculated that this privilege, notwithstanding they consented to pledge their whole property to secure the interest and principal to the first set, and also notwithstanding that they actually pay the interest to the first set, would produce them a fair profit. All will admit that the first set hold the faith of the State pledged to them. We should also say, much more do the other set hold it pledged to *them*, that this fare shall not be interfered with without their consent, because, otherwise the burthen of the whole comes on them.

If it is not so, of what possible use or meaning was the reservation of the right to take the railroad, which is contained in the 17th section before cited.

For if the State can reduce our fare, so also can they take the road, if there had been no such provision as that of the 17th section.

The very reservation of *that provision* shows what was then intended, and we ask no more than the fair fulfilment of the *intention* of the law.

A reduction of our fare, working a destruction of the value of our property, would place it where it would not be *worth taking* under the 17th section and paying for, although perhaps practically, the public would thus take it *for nothing.*

Private property cannot thus be taken for public use without compensation.

Under the provisions as they stand, the proprietors of the railroad are safe, because the State will pay for it, if it is taken according to law; but under the assumed power to reduce the fare there is no safety, because situated as we are, upon the point where we must renew and greatly improve the railway, a reduction would so shake confidence, that a reconstruction would be impossible.

We should neither dare to attempt to borrow the money, nor would those having it listen to us a moment if we did attempt. We could offer to them nothing but a property subject to constant assault, and to be made the experiment to try any theory that the most dreamy speculatist could suggest.

A reconstruction would then be hopeless. The legislature, heretofore, has not only rejected all these propositions to reduce our fare, as has been stated, but it encouraged us to go on and prepare for a reconstruction of our road, and authorized us to borrow money for that purpose. (See laws of 1845, page 405)

Under the faith of that law we have gone on preparing for a new track, and have expended a large sum for that purpose.

The act of May 12th, 1847, required us to relay the road with a heavy rail during the present year, under the penalty of suspending all dividends until the relaying was complete; thus providing for the appropriation of all revenue to strengthen the property. No provision as to a reduction of fare is contained in that law, but on the contrary, the receipts or earnings of the company, at the legal rates, if necessary, are to be applied to the relaying the road with an iron rail. We have commenced in good faith to execute the requirements of that law, and have actually been compelled, in order to make reasonable provision, to pay $75,000 more for the requisite iron than a like quantity can now be purchased for. While for this we claim no favor, we do say that we have a right to ask to be fairly suffered to complete our work, according to the spirit of all these laws.

The act of 27th November, 1847, invites us to lay a *double track.* Surely this was in earnest. We did not ask for it; but the le-

gislature wisely provided for this very desirable object to the public. Under the views entertained by us, and which we here frankly present, it can scarcely be necessary to add, that the day when a double track can be laid, is most remote, if the right to reduce our fare is now to be asserted. We do desire to lay a double track, and to then see how low we can carry passengers, but we cannot surrender the right to destroy our property without compensation. The stockholders of this company invested their money in good faith, and they must have the same right of property that others have. We have no *rights*, and no *property*, if our fare can be reduced at pleasure.

We suppose that all agree that these roads should be reconstructed as soon and as thoroughly as possible.

We also suppose that the petitioners do not wish us to do business without a fair profit.

Have they thought of guarantying us the profit proposed in the charter, if tney reduce? If they would not do this, is there good faith in the application?

The petitioners ought to reflect that railroads are in their infancy; that ours are very imperfect, and require constant large expenditures; that although they are constructed by corporations, they are made really by the *people*, through the procurement of the legislature; that the offer or promise of four cents fare and ten per cent. dividends, is only another mode of paying the persons who advance the money to make them, and that faith is as much to be kept with one set of creditors as another; that it is nothing but the faith of the State that sustains its great debt, for its promises in this way cannot be enforced; that there is the same power to violate its faith to its creditors, for twenty millions of dollars, that there is to a railroad company for one milion of dollars; that the blow which prostrates *our property* and destroys our rights, will next fall upon other railroad lines, and will to a certainty deter men from the construction of another work of the kind.

Let the petitioners carefully and honestly reflect upon all these things, and then if they are prepared to renew and press these applications, so far as this company is concerned, we say let the State take the railroads and try the experiment of low fares. We are ready to meet the question under the 17th section. Then the loss, if any, will fall equally upon all, and the benefits, if any, will be equal, in like manner. We cannot consent to be thus experimented upon unless it is to go through all other business.

The consciousness of having endeavored faithfully to discharge our duty under the trust which we have assumed, impresses us so strongly, that we ought not to be subjected to these annual difficulties, that we are the more inclined to submit to the legislature to take the property and pay for it according to law, and let it thereafter be controlled like other property of the State. For it cannot be that reliance upon a plain law has drawn us into a position where the legislature can either take our property, and pay for it fairly, as it reserved the right to do, or can deliberately impair its value, and then refuse to take it. The reciprocal relations of right and duty forbid such an inference.

It adds little to the consolations of our position, that we may *believe* that we have all the guaranties which the State faith can give, to our property, if we must be annually constrained to appear and resist ruinous attacks upon it. All our accounts and all our doings are open to the legislature and to the public, and we desire to say that we have nothing to which we are unwilling that the strictest scrutiny should be applied.

Having said thus much upon what we consider as the legal and fair view of the case, we will further suggest such considerations as have occurred to us in looking at the matter in the fairest aspect for the petitioners.

So far as we are informed, this is the only line of railway in this country upon which tolls are required by the State for the transportation of property, where there has been nothing exclusive granted by the legislature. These tolls are a very heavy burthen upon our business. They reduce it largely. We cannot carry as cheap as the canal, hence the effect of the tolls is to diminish our business. We may all well ask why are these tolls required? We make and maintain the railway, and pay full taxes on it. Not so on the canal; that is made and maintained without expense to those who pay tolls thereon. They should pay on the canal, because it is furnished to them ready, without other charge. Not so with the railway. The State does nothing for that, and the tolls are a tax upon those doing business upon it. It is a local tax, and as such, is, we submit, unfair.

The imperfect and unfinished nature of this line of railroad is obvious, and this consideration ought to influence our fellow citizens to exertion, in our aid, rather than in ruinous attacks upon our business and our credit. We consider that nothing is now more important than the thorough reconstruction of the railroad from Buffalo to the Hudson river. The cost of iron, to lay that part of it from Syracuse to Utica, and the other material necessary, and the labor, will make the whole cost of relaying a single track on this section not less than half a million of dollars. Where is this amount to be derived? What is the inducement for incurring this great expense? Surely we may ask, is it to-day to satisfy that public convenience and comfort, which to-morrow may demand the sacrifice of all that has been added to the investment? This would follow if the petitioners speak the true public sentiment. We cannot believe that they do. On the other hand, there must be a just and liberal sentiment, which will induce a full examination of the whole matter.

When this is had, we fear not that it will be found "to be matter of great importance that *public confidence* in these investments should be studiously and carefully preserved, to enable the companies to command new subscriptions, or favorable loans, if need be," for the reconstruction of the roads.

We have been nearly nine years engaged in the transportation of passengers, and in that time, by the most careful examination of the business, and a comparison of one year with another, have sought to find the point at which the interests of the company as well as of the passengers meet. We have no motive to charge any fare but that which will produce to the company a reasonable remuneration upon its capital. We should most cheerfully charge a low rate, if we were not conscious that it would not pay. It is to the interest of the company, as well as entirely conformable to the feelings and inclinations of the directors individually, to charge the lowest rate that will pay. In pursuance of this we have heretofore charged low fares, but the number of passengers was not materially increased. There are several routes through the southern and middle States that compete with us for the western travel. The Erie railroad soon to be in operation, is still further to divide our business. All these matters are very carefully considered by us.

There is a strong competition with us upon the canal, and to all those who do not value their time that is a favorite mode of travelling. The people by the construction of the canal, furnish the main capital for the packet boats to do business upon, and *they* can reduce easier than we can. The whole cost of a line of packets is a small matter, and the moment that we attempt to draw off their business by a low price, they can go so much lower, as instead, to *draw from us*. The capital invested is so unequal that the controversy is ruinous to us.

Our experience in this question is precisely like that upon all other roads with which we are acquainted. The railroads in this country are divided into two classes. One of them furnishes a dividend to the proprietors, the other does not. We think it will be found that the largest number are in the last class. The stocks of these furnish the aliment for gambling speculation, and their main value consists, not in the fact, that they produce anything to the proprietors, but that they may be sold again *perhaps* at an advance, if speculation is rife. It will be easy to enumerate many in this class. It is almost uniformly the case, that it is the non-paying railroads upon which the low fares are charged.

We are not aware of the existence of any railroad which is confined to the passage business, that pays a dividend on a low fare. So far, we believe, all experience is the same as we have learned. All the fares in Europe, (except the Belgium,) so far as we are informed, are considerably higher than ours. In Belgium the railroads are all owned by the government. It is one of the most densely populated countries in the world. We have the authority of one of the Reviews, that the annual charge upon the government on account of the railroads, is a little over $4\frac{1}{2}$ per cent., while the income is only about $2\frac{7}{10}$ per cent on the cost, leaving an annual loss to the government of £100,000, or half a million of dollars. The first class fare there is two cents per mile per passenger, and the second class fare is one and a half cents. We may ask where is the experience or the

example to the contrary of this. We believe there is none to be found. Certainly there is no general rule to uphold the grounds assumed by the petitioners.

We desire to cite one other instance of the policy of the country in which the railway system has advanced farther than in any other.

"An act was passed by the British parliament, August 8, 1844, authorizing the lords of the treasury at any time after twenty-one years from the incorporation of any *new company*, to reduce the scale of tolls of any such company, provided the divisible profits shall exceed ten per cent. on an average, for the last three years; guaranteeing to the company at least ten per cent. profits: the fare thus fixed, to remain twenty-one years. They are also authorized to purchase the road and its property, after twenty-one years, on paying a sum equal to twenty-five years divisible profits, to be estimated in like manner."

A similar provision has been adopted in Massachusetts.

We are not aware that in any country the right to reduce fare at pleasure, in this way, has been asserted by the government. On the contrary, it is left by all, so far as we can find to be regulated by competition, and to produce a certain per cent.

The passage fare of this company has never been above about three and three-quarter cents per mile, and we maintain that when all circumstances are considered, that is a reasonable fare. It has never produced extraordinary profits. A table appended to the annual report of this company, made to the secretary of State, a copy of which is hereunto annexed, shows the receipts from all sources each year, and the payments made. This company, some years back, fixed the dividends at eight per cent. annually. They have neither the expectation that they can increase the amount, or the disposition to attempt it, because they know how much is required to keep up this work. The time, the fatigue, and the expense of living, which are saved to the passengers, should all be taken into the account, when estimating the fare that he pays.

A table appended to this memorial, shows the rates of fare on all the principal railroads of the country. We believe that it is correct. This statement shows that the fare is a medium one upon this line, although it is so often said to be the highest. On the great route from New York to Washington, the fare for about 220 miles is about $10. That route the postmaster general decides is the *most important* in the country, and he there pays $300 per mile for carrying the mail.

The line from Albany to Buffalo he holds to be one of but *medium character*, and refuses to pay over $150 per mile for the transportation of the mails. All these facts bear upon the question.

Another table annexed, shows the great receipts for freight on the railroads in Massachusetts, as compared with those in this State. This table is made upon the business of 1846. We have not yet received the reports of last year. There has been full as large an increase there in 1847, as there has in our State, so that the relative difference will still be maintained. It is the monopoly of the freight and passenger business, that enables railroads in Massachusetts to carry at low fare.

Here we have a powerful competition as to passengers, and our freight business must forever be limited, because the canal can carry the cheapest, and at present because we are compelled to pay tolls. Though we may be free from tolls, yet the enlarged canal will always control the freight business.

We ask leave to say in conclusion, that government management of railways has not been successful in this country. It has been distinguished for its favoritism, for its improvident expenses, from the fluctuating policy resulting from political change, and generally it has been so unsuccessful as to induce the proposition for the government to sell out the railroads, and quit a business for which it is so obviously unfitted.

JOHN WILKINSON, *President.*
V. W. SMITH, *Secretary.*
Syracuse, February 28, 1848.

Statement of the Receipts and Expenditures of the Syracuse and Utica Railroad Company, for the years 1839 to 1847, inclusive.

Years.	EXPENSES. Transportation.	Construction.	Total.	RECEIPTS. Passengers.	Freight.	Mail.	Miscellaneous.	Total.	Net gain over all exp.
'39	$34,438 02	$25,393 45	$59,831 47	$122,185 29	.....	.....	.....	$122,185 29	$62,353 32
'40	66,526 65	44,285 71	110,812 36	178,509 57	$1,636 29	$11,350 47	$3,376 16	194,872 49	84,060 13
'41	66,696 22	42,928 00	109,624 22	190,829 32	2,341 16	5,317 63	1,025 62	199,513 73	89,889 51
'42	59,970 50	38,896 94	98,867 44	155,224 95	1,620 01	9,275 00	3,315 31	169,435 27	70,567 83
'43	66,796 44	7,413 31	74,209 75	147,353 40	2,119 82	11,598 75	2,714 11	168,786 08	89,576 33
'44	80,824 53	35,678 42	116,502 95	181,647 34	3,457 09	6,956 25	2,620 74	194,681 42	78,178 47
'45	140,294 59	975 00	141,269 59	182,484 78	12,947 50	6,956 25	1,951 70	204,340 23	63,070 64
'46	159,078 33	12,112 73	171,191 06	229,708 56	19,623 50	6,289 75	2,015 41	257,637 22	86,446 16
'47	421,492 01	3,641 94	425,133 95	285,941 61	52,494 46	7,950 00	*160,793 84	507,179 91	82,045 96
	1,096,117 29	211,325 50	1,307,442 79	1,673,884 82	96,239 83	65,694 10	177,812 89	2,013,631 64	706,188 85

* $80,000 of this amount is a loan contracted on the bonds of the company. $77,000 of this amount was received on account of an issue of new stock. The balance was for rents, and other incidental rec'ts.

MASSACHUSETTS AND NEW YORK RAILROADS.

Comparative Statement of the Business on several Railroads in Massachusetts and New York, from the attested reports for the year 1846.

NAMES OF COMPANIES.	Length of roads.	No. of passengers.	Receipts for passengers.	Receipts for freight.	Rec'ts per mile for passengers.	Rec'ts per mile for freight.	Whole receipts.
Boston and Lowell	25¼	400,886	$139,505 72	$127,604 87	$5,417 70	$4,955 53	$267,110 59
Boston and Maine	73	460,426	223,191 85	119,538 78	3,057 42	1,637 52	342,730 60
Boston and Providence	41	476,515	156,196 65	87,852 49	3,809 67	2,142 74	244,049 14
Boston and Worcester	44¼	470,319	279,792 59	260,165 42	6,269 87	5,830 04	539,958 01
Eastern	38	786,756	310,061 14	42,271 06	8,159 50	1,112 40	352,332 20
Fitchburgh	49¼	327,034	125,118 12	151,038 57	2,536 18	3,061 59	276,156 69
Albany and Schenectady	17	174,653	92,194 67	33,641 05	5,423 22	1,978 89	125,835 72
Utica and Schenectady	78	221,818	347,535 51	80,860 47	4,455 58	1,036 67	428,395 98
Syracuse and Utica	53	155,279¼	229,708 56	27,928 66	4,334 13	526 96	257,637 22
Auburn and Syracuse	26	105,809	98,051 71	20,986 32	3 771 22	807 17	119,038 03
Auburn and Rochester	78	142,255	253,073 21	37,097 34	3,244 53	475 61	290,170 55
Tonawanda	43¼	92,387	111,583 09	41,478 00	2,565 13	953 53	153,061 09
Attica and Buffalo	31	87,633	72,405 55	14,088 51	2,335 66	454 47	86,494 06

The foregoing table shows the great difference in the number of passengers upon railways in a densely populated country, and those located upon what we consider one of our great routes. Upon one a large portion of the whole people travel. Upon the other, those engaged in business, or in the pursuit of pleasure, give for a part of the year, an appearance of numbers, large to be sure, but by no means equalling in the aggregate, the travel in New England. There is another very important element in the business of railways. Upon those in Massachusetts, the receipts for freights are almost equal to the passenger receipts; while in our State, the amount received for the transportation of property is very limited. In Massachusetts the railways have the whole transportation of property; here the whole is claimed by the State—for canal tolls must be paid whether it is carried upon the canal or the railway. In the one State the railways have all the business, in the other, they have the State monopoly against them.

The table of railroad fares is taken from the *Railroad Journal* of the 20th of November last. It has been made with care by the editor of that Journal, and shows the rate per mile on a great number of railroads. It will be perceived that the allegation so frequently made that the fares in this State are the highest rates charged, is erroneous. Upon all other roads than those through the central part of our State, the carrying of freight is a large item of business. This privilege, now extended to this line, is on condition that State tolls are to be paid, and that the railroad is to be considered as long as the canal.

To present the advantages of the transportation of freight to railways, a table is annexed, made from the reports of several roads in New England, and of the central line in this State. It will be seen at once how much the New England roads exceed those of New York in business, and how important is the amount of their receipts for freight.

We omit the *table of fares* here referred to, as it will be found in number 47, for 20th November last, of the Journal.

We wish this remonstrance could be read by every voter in New York, as we think it would open their eyes, not only to the iniquity of this movement, but also to the impolicy of requiring this line to pay canal tolls on freight carried over the line—especially when the canals are closed.

CANAL APPROPRIATIONS.

We learn from the Lowville (N.Y.) Journal that there has been an agreement between the canal committees of both branches of the legislature of that State, upon a report, by which ample appropriations are to be made that will render the Black river canal available at an early period. The feeder will be ready for use as soon as the first or middle of August, which will be of great importance in supplying the level west of Utica during the dry season. The Genesee Valley canal will also be completed much earlier than was expected as far as Canada. The following are the appropriations made by the bills accompanying the report:

Black river canal and Erie canal feeder...	$130,000
Genesee valley canal, to be expended between Mt. Morris and the Canada feeder.	218,000
For the Erie canal enlargement, $910,000, to be expended as follows:	
Between Albany and Oneida creek.....	400,000
Between Oneida and the east line of Wayne county.....	150,000
Between the east line of Wayne county and Buffalo.....	150,000
At Buffalo.....	160,000

The following is an extract from the report:—

The aggregate value of wheat, flour, and other property from the west, shipped down the canal at Buffalo in 1847, was $29,944,367

Of property up the canal which was shipped from the west to Buffalo, $33,343,651.

Aggregate value of exports and imports of the canal at Buffalo in 1847, $62,287,811.

Canal tolls on *down* freights received at this point in 1846, was $763,683 02. Do. 1847, $1,216,700 96. Increase in 1 year at Buffolo, $453,017 94.

The whole number of vessels and steamboats engaged in the lake commerce last season was 550; and the aggregate tonnage of the arrivals and departures at Buffalo the last year was 2,226,538.

For the Genesee valley canal from Mount Morris to the Canada feeder, a distance of 36½ miles, they recommend an appropriation of $218,008. This will go very far towards bringing into use this part of the canal, so that as early as 1849, it is believed that the people of a large and interesting section of the State, who are now in a great measure deprived of the benefits of canal navigation, will have all the advantages of this means of transportation in carrying on their business operations; and this sum is recommended at this time to accomplish this desirable purpose at as early a day as practicable.

As yet no part of the Black river canal has been brought in successful operation, and it is very desirable that it should be completed to Boonville and the slackwater navigation on the Black river, a distance of 42½ miles, as soon as possible. It is estimated that $100,000 will complete this canal to Boonville, including the Erie canal feeder from Black river; and that $30,000 will make available for use, but not entirely complete, the 42½ miles of slack water navigation on the river and leave a considerable sum to commence the construction of the locks beyond Boonville.

The committee recommend an appropriation of the sum of $130,000, to be expended for the purpose of bringing into use a work of such great importance to the people of the northern portion of this State. The Black river feeder is a necessary work to supply the Erie canal with water, and it is believed that if it can be completed before the dry season commences the coming summer, it will be of great service to the navigation east of Rome this year.

The aggregate cost of constructing all the canals in this state thus far is about $31,000,000. The amount of tolls collected on all the canals in 1847, was $3,695,380. Deducting all charges against them for superintendence and ordinary repairs and the collection of tolls, and the result is, that they are paying more than 93 per cent. per annum on the capital invested in their construction. This result is very gratifying to the friends of the canals, demonstrates the propriety of the investment, and the wisdom of the early projectors of these important State works.

The committee respectfully ask leave to introduce bills in accordance with the recommendations contained in this report.

All which is respectfully submitted.

Jerome Fuller, F. S Martin—*Senate Com.*

E. G. Spaulding, N. Coe, E. A. Martin, D. D. Reamer, L. H. Chase—*Assem. Com.*

FRENCH RAILWAYS DURING THE REVOLUTION.

The Railway Chronicle of 4th March has the following remarks in relation to the damage done to the railways during the revolution.

Although our special department lies at some distance from the range of ordinary political movements, it is apt to be reached by them in various directions on occasions of unusual agitation and sudden change. The grave events of the last ten days have not passed over without deeply touching many points of interest to the railway body. The precipitate fall in the value of all kinds of stock which has taken place since we last wrote, was a natural consequence of the shock which the stupendous convulsion in France could not fail to produce in all neighboring countries. The unexpected birth, progress, and completion of an entire French revolution within a space of five days, might well create on all hands a pause of wonder, and strike down the spirits of men, in doubtful expectation of the issue of so tremendous an overthrow of established things. The panic thus created in all those departments of mercantile and monied business which draw their support from confidence in the stability of the future, has been felt to the utmost in the rail way share market; and, coming upon it in a state of chronic weakness, did not produce a greater depression, or a more universal check to every kind of business than might have been expected under the circumstances. The extremity of the first alarm may now be said to have a little subsided; but its effects may be felt for some time to come; and the revival of hope, or the increase of despondency—as far as either depends on outward circumstances—hangs in the meanwhile on the uncertain balance of public events; the ultimate issue of which few will be courageous enough to predict at this early stage of a movement, the vibration of which must be felt in every corner of Europe—at a moment, too, in which there is scarcely a single one of the continental kingdoms that is not itself already pregnant with the matter of internal agitations.

The effect of what has just happened in France on the value of investments in French railways, must long continue here, even after the excitement of the moment shall have passed away—as we sincerely trust it soon may, on the establishment of order and of something like a prospect of settled government in that kingdom. The mischief inflicted by mobs on the Rouen and northern lines—the destructive and hostile dispositions which broke out amongst the lower class, directed against harmless monuments of foreign contributions—will not soon be forgotten. It is not that any one can imagine that the devastating or jealous spirit of the populace which caused the havoc, actuates any but the lowest class; but repeated experience has shown the momentary power of that class to be greater on occasions of sudden excitement, and also to be more apt to be suddenly excited in France than in most other countries. The effects of their turbulance are no doubt deplored by all the better part of the French people; but the mischief unfortunately remains in spite of their regret.

It is grievous to hear of the destruction of some of the finest works between Paris and Havre, during the tumultuous movements that broke out on the first news of the amazing events in the capital. The extent of the damage, we trust, may be found less than it was at first reported to be. In any case, however, it is a deplorable circumstance that useful works should be exposed to this kind of vandalism, on the occurrence of startling political circumstances. Some incidents have been related with respect to the destruction of the Rouen viaduct, which we do not like to detail, on the doubtful authority of newspaper reports, in a time of panic, which is always prone to exaggerate, if not to invent. There remains enough to grieve and discourage bystanders without the presence of traits revolting to humanity, which we hope may be contradicted hereafter.

On the Northern line, the mischief appears to have been less serious to the permanent works: as the communication was already restored, in some degree, between Paris and Neufchatel as early as on February 29th. The most serious act of the mob in that quarter would appear to have been the setting on fire of a valuable merchandise train in one of the stations which was attacked—Pontoise. Whether along the northern route the excitement may not be more continuous than in the Seine valley, and whether it may not spread over the frontier to the Belgian railways, are questions we have not confidence enough to answer at this early moment. It would seem, however, to be premature to regard the disturbance in the north-western region as already quite laid to rest.

At Tours, the newspapers tell us, the directors have been forced to discharge the English mechanics from the railway workshops and establishments in that city—a fact which, if true, is not of the best augury for

the progress of French improvement in any way. Our skilful artisans can far better dispense with employment in France than the French establishments can spare their workmanship; and the feeling that excludes them is of the lowest kind of ignorance.

The tendencies in the laboring class to which we have been adverting are, so far, the least hopeful phenomena of a revolution which, in other respects, has, up to this point, been characterized by many signs of a change for the better in the French public of 1848 as compared with that of 1789. We heartiiy desire that in the future course of this amazing transaction, the elements of order and right will still more and more prevail over the worse impulses of the worst part of the populace; and that, as a consequence of their re-establishment, we may have to report the return of security and activity to a class of works that, more than most others, are endangered by violence and wrong.

HEAVY ENGINES AND HEAVIER RAILS.

A writer in the Railway Chronicle on this subject says:—

I observe that at the late half yearly meeting of the London and North Western, that the chairman intimated the determination of the directors to make an annual reserve of £10,000 towards a fund for meeting the expense of laying down rails, of much heavier section, so as to replace the present ones, which are rapidly becoming destroyed, owing to the employment of much heavier and more powerful engines. This announcement appears to me to deserve the most serious attention of every shareholder in the land; as it has reference to some questions, which, although at first sight come more within the province of the engineers of the line, in respect to mechanical considerations, yet so intimately connected is this subject with the interest of the shareholders, as touching dividends, that I doubt not, if the subject has not come home to them already, it soon will in a most serious and substantial form. As regards the policy of establishing such a reserve fund as the one in question, few can doubt the directors deserve the best thanks of the shareholders for so prudent a determination. But what I desire to remark is, that the causes of this determination to establish a reserve fund for relaying the line with heavier rails, should be made the subject of most careful investigation, so as to ascertain whether the *causes* of the rapid deterioration of the rails is not within our power to remove. I cannot imagine a subject of higher import ance to the interests of all concerned with railways than the one I allude to; and I think that ere long the investigation will be made. I well remember when the Manchester and Liverpool was opened, we had engines of some 8 or 9 tons, running on rails 36 lb. to the yard, the width of the top of the rail being 2 inches. These rails stood the weight of these engines very well for several years, but when the weight of the engines was increased to 12 and 13 tons, the destruction of the rails became rapid, and the whole line was relaid with rails varying from 64 to 75 lb. per yard; but owing to the further increase in the weight of the engines, these rails have had to be increased in weight as they in their turn were overpowered. What has taken place on the Liverpool and Manchester, and now to so serious an extent on the London and North Western, is only but too true a description of what is at this moment going on on every railway in England. Engines of such vast weight are now employed in dragging monster trains, that the rails on which they run are crushed and laminated in the most serious manner; and what makes the matter worse is, that the evil does not stop with the rails alone, inasmuch as when the rails of a line get into this state, not only is the motion and vibration felt by the passengers most disturbing, but also the very occasion of such jerks resulting from rails in bad order, produces still further destruction to every wheel, axle, spring, and wagon, that run over them—and thus, by cause and effect becoming each other alternately, the evil increases in a sort of accelerating ratio. I know as a fact, that iron has now become, as it were, too soft a material to withstand the enormous weight of the engines now in use; the tires of the engine wheels become rapidly crushed into a sort of hollow where they bear on the rails. No doubt this might be so far prevented by the employment of steel or charcoal iron, as has been done with the best effect both in respect to the tires as well as the rails. But it appears to me that we do wrong in attending only to the cure of these serious evils, and not looking as we ought to the cause, with a view to its removal. It appears to me that the whole mischief arises from an attempt to concentrate in one enormous locomotive engine the tractive power which, under a wiser system, we ought to divide between two or three locomotives. When we bear in mind that the weight of a locomotive increases in a much more rapid ratio than its tractive power, we shall find that to gain one advantage we lose another, of much more dividend producing value. According to our present state of knowledge on this most important subject, it would be presumption in the extreme for any one to state with confidence the exact £ *s. d.* importance and value of the two systems, namely; light engines with light trains, or monster engines with monster trains. The damage and destruction of railway plant, rails, permanent way in all details, engines and locomotive plant—wagons and carriages—resulting from their passage over a line in bad order, is a question so large and extensive as would require the most careful investigation of a committee of the most able men weeks or months to come to a correct conclusion on; but I am confident, from the results of a pretty wide survey of the subject, that if the result of such investigations were brought out in plain £ *s. d* terms, such would be the awakening up to the importance of this subject, as regards dividends, that railways would find in this subject a much more legitimate occasion for their attention than the miserable squabbles they have of late been squandering their attention and means upon Although a practical man, and having professionally occasion to be in close contact with the subject I refer to, yet I would not wish to speak with undue confidence on this matter; except to say that I know of none more urgently important as relating in the most serious degree to the reduction of the working expenses of our lines. I trust that the London and North Western, who have had the good sense to provide against the evil results of the heavy engine system, will go a step further and see if they cannot remove the cause of the mischief—the evils of which are almost beyond calculation. A PRACTICAL ENGINEER.

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves	Albany	7½ A.M.	2 P.M.	7 P.M.
Pass	Utica	1 P.M.	7½ P.M.	1½ A.M.
Pass	Syracuse	4½ P.M.	11 P.M.	5 A.M.
Pass	Auburn	6½ P.M.	1 A.M.	7 A.M.
Pass	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo	5½ A.M.	12 M.	6 P.M.

Going east.		1st train	2d train.	3d train.
Leaves	Buffalo	7½ A.M.	2 P.M.	7 P.M.
Pass	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass	Auburn	6½ P.M.	1 A.M.	6 A.M.
Pass	Syracuse	8½ P.M.	3½ A.M.	8 A.M.
Pass	Utica	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NORWCH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington,

SIZER & CO.

January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1t

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.

1y10 New York.

IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

GEO. W. TOWNS, *Governor.*

WM. L. MITCHELL, *Chief Engineer.*

Atlanta, Ga., January 24, 1848. [7t6]

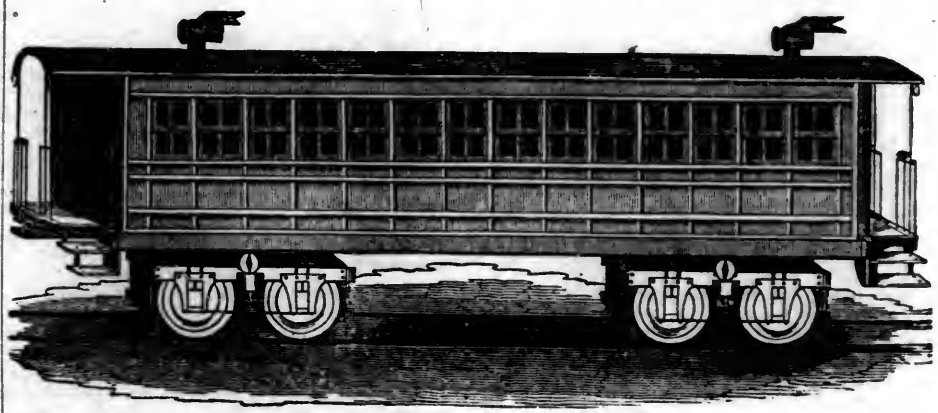
RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe. Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,

Willow Street Wharf,

1tr Philadelphia, Pa.

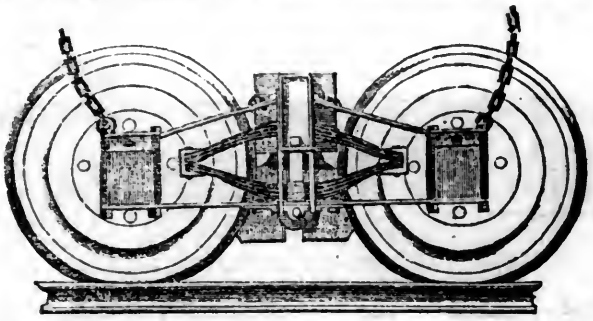
RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ⅝ Flat Bars.
25 Tons of 2¼ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.

No. 4 So. Front St., *Philadelphia*

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, 1y19 Sup't Motive Power.

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.— for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	21	–	50	15-16	20
13	3¼	8	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¾	5	2	6¼	9	4	13¼	1-2	7¼
16	2¼	4	3	6	8	8	10¼	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y35 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a15 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a15 President of the Newcastle Manuf. Co.

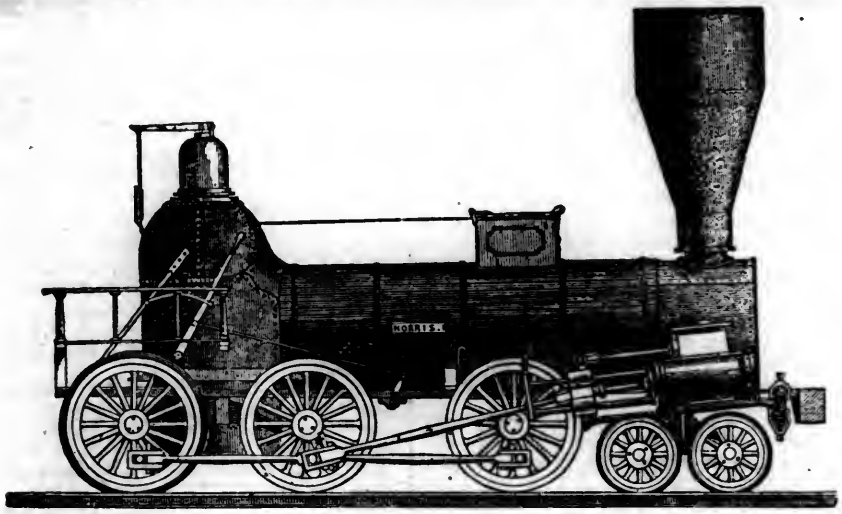
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

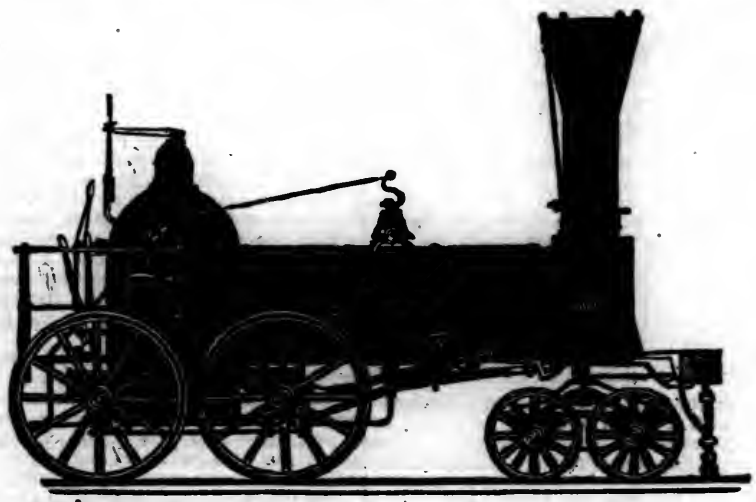
James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.

ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; ard the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.


WINTER ARRANGEMENT,


Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 18 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

5tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st, where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and ½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

5t W. RAYMOND LEE, *Sup't.*

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

2ltf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84½ miles.

From Springfield to Bellefontaine by stage, over a good Summer road .....32 "

From Bellefontaine to Sandusky city by railroad .....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort. other hours as above. 351y.

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles rom Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12 Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

t25 JOHN KING, Jr, *Agent.*

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for **1848.**

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3 00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.
SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

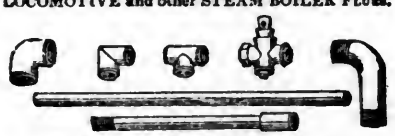
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

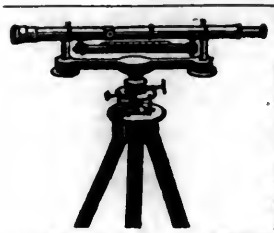
PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 16] SATURDAY, APRIL 15, 1848 [WHOLE No. 617, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, April 15, 1848.

The Journal, Its Subscribers, and the Editor.

In *some instances*, and from causes beyond the control of the subscriber, or the editor, accounts for the Journal have been allowed to run along year after year, until $15 or $20 were due, when an order has been received from the postmaster to discontinue sending it, as the subscriber had removed. In this way, during a period of *fifteen years*, a very *considerable* amount has been lost, or in other words, *not received*; and there are now on the books of the Journal quite a number of accounts of from *three* to *five* years standing, amounting, in the aggregate, to *many hundred* dollars, which, *together with the current year's subscription, if paid in advance, according to the terms*, would enable us to get new type, and make other important improvements, especially the employment of *able editorial* assistance for the future, as well as to visit personally all the principal railroads and canals in the country, during the ensuing two years.

To accomplish these objects, if possible, a *bill* and *prospectus* will be sent by mail to each subscriber whose account is not paid up to January, 1848, in the hope that, on knowing the amount due, he will remit it without delay—and possibly at the *same time* send in a *new* subscriber, and thus give both "aid and comfort" in a *tangible* way. To those owing only for the *current* year, we say—shall be pleased to *hear from you soon*, and equally pleased to see all at our office.

☞ Our subscribers in *Canada* will please bear in mind that we have, during the postal *disarrangement*, to pay postage *to the line* on their Journals, therefore we look to them to remit for the current year without delay.

Pennsylvania Canals.—Rates of Freight.

Navigation on the Pennsylvania canals was fully resumed on the 21st inst., and the work from Pittsburg to Philadelphia is reported to be in the most perfect order throughout. Twenty-five boats left Pittsburg on the 21st. The Pittsburg Journal says the rates of freight established for the season are as follows—from Pittsburg through to Philadelphia and Baltimore.

Prices of freight on produce, etc., at the opening of the canal to Philadelphia and Baltimore, March 21st, 1848.

Articles.	Rate.	
Ashes, pots and pearls	50	cts. per 100 lbs.
Bacon and butter	65	"
Beeswax, bristles, and hair	75	"
Cheese	75	"
Corn and rye	30	cts. per bushel.
Cotton	60	cts. per 100 lbs.
Dry goods, furniture, and eggs	100	"
Dried fruit, hops, and hardware	75	"
Flour	100	cts. per barrel.
Furs, peltries, and wool	100	cts. per 100 lbs.
Ginseng and leather	80	"
Hides, green 75 cts., and dry	125	"
Lard, lard oil, and tallow	65	"
Linseed and caster oil	75	"
Pork, per bbl. 150, bulk	65	"
Rags and seeds	70	"
Skins, deer and buffalo	75	"
Tobacco leaf, (Ohio)	75	"
Tobacco leaf, (Ky.)	65	"
Wheat	33	cts. per bushel.
Whiskey	62 2-3	per 100 lbs.

Cornish Engines.

The number of pumping engines reported this month, is 27. They have consumed 2,285 tons of coal, and lifted 22,000,000 tons of water ten fathoms high. The average duty of the whole is therefore 54,000,000 pounds, lifted one foot high by the consumption of 94 pounds of coal. The boilers are leaky at Sim's engine, Carna Brea, Wheal Andrew and Nangiles.

Russian Gold Mines.

It appears that during the ten years ending with 1846, the produce of the mines in the Oural mountain had scarcely shown any difference in the annual supply; while those in Sibera had increased more than tenfold. There has been, during that period, an augmentation of nearly four to one in the total annual produce of these mines. It is expected, from recent discoveries, that the supply will be increased; but it is, of course, uncertain how long it may continue. The value of fine gold obtained in 1837, amounted to £900,673; in 1838, to £1,004,120; in 1839, to £1,003,403; in 1840, to £1,115,037; in 1841, to 1,316,653; in 1842, to £1,848,808; in 1843, to £2,635,386; in 1844, to £2,730,647; in 1845, to £2,792,156; and in 1846, to £3,414,427; making a total produce, for the ten years, of £18,761,310.

What Railroads Do.

Why, they make business lively in spite of rain and mud, and in alluding to the almost impassable state of the mud roads the past winter, the Sandusky Mirror remarks—"had it not been for our railroad communication, we should have been, during the winter, so far as country trade is concerned, as isolated as though Sandusky city was located on some island in the middle of the lake. How our sister towns, that do not possess the advantages of railroad communication have got along we are unable to say."

One would suppose that business men, who have "lain on their oars" for five months past, and the empty warehouses along the river, might answer; and yet the reluctance many exhibit in subscribing railroad stock must be taken as the most conclusive response.

Railroad Matters.

We understand that the directors of the Nashville railroad have employed, as the engineer of the company C. F. M. GARNETT, Esq., recently the chief engineer of the Western and Atlantic railroad. They are fortunate in their selection if they have secured his services.

The Coosa River Journal says that, by the 1st of June next, the cars will run from Kingston to within seven or eight miles of Rome. Owing to heavy rains and other circumstances, the road will not be completed till toward the end of the approaching summer.

One of the directors of the Cleveland, Columbus and Cincinnati railroad is said to have announced at the railroad meeting recently held at Cleveland, that the city council had subscribed one hundred thousand dollars to that road *positively*, and another hundred thousand conditionally. This is is showing the right spirit, and if the other cities and counties on the line will come up to the work and subscribe the amounts authorized by law, the iron horse will be heard snorting through the entire line before they are aware of it.

The contract for the completion of the State road, from Dalton to Chattanooga, was on the 21st ult., given to Col. Allen Cochran, of Monroe county, be

engaging to complete the work for $365,000—some $10,000 less than the legislative appropriation. The Macon Messenger says that the new engineer increased the estimates of Mr. Garnett $40,000, making the actual cost of the work about $415,000. This was done by estimating for heavier iron and an increase of masonry. The Atlanta Miscellany says that his excellency the Governor has been in that city, and has for some days been closely engaged in matters connected with the road The above intelligence will be read with unalloyed pleasure by every citizen of Georgia, who feels any interest in the prosperity of her people, or the success of her works of internal improvement. A bright future, says the Augusta Chronicle, invites the improvement of her soil, the erection of substantial and beautiful country residences, farm buildings, school houses and churches—and the confidence of all, that Georgia is to become a well peopled, rich and most prosperous State. Fortunately, she is nearly free from public debt; and what she has will be overpaid by the willing contributions of Tennessee.

We understand that a spirited meeting was recently held in New Haven, in reference to the extension of the "Canal Railroad"—now in operation to Plainville, 28 miles from New Haven—to Collinsville, 12 miles further, and thence up the Farmington valley to the Massachusetts line, in the direction of Pittsfield. Wm. W. Boardman headed the subscription with ten thousand dollars, and before the meeting closed, thirty thousand dollars were subscribed.

The Northern railroad company have lately applied to the legislature for a bill authorising them to bridge the outlet of lake Champlain. It is highly probable that the request will be granted, and that the work will be immediately put under contract.—The bridge alluded to, when constructed, will form a perfect connection between that road and the roads in Vermont.

A meeting of the directors of the Ogdensburg and Champlain railroad was lately held in Boston and the most energetic measures taken for the early completion of the whole work. It is said that 60 miles of the road will be ready for the rails the early part of next autumn. A portion of the remainder in the month of April following, and all by the 1st of July succeeding.

The directors of the New Haven railroad have agreed to furnish the money for the laying of a double track from the junction of the Harlem road to New York city. The legislature has granted to the Harlem company the privilege of consolidating their debt, by the issue of eight per cent. preferred stocks, with individual liabilities.

The House of Assembly for the Province of New Brunswick have proposed to issue £100,000 in provincial scrip, bearing interest at 5 per cent., redeemable in thirty, forty and fifty years, to be loaned to the company formed for the construction of the St. Andrews and Quebec railroad.

A bill has passed the legislature of this State, authorising the New York and Erie railroad company to construct their road through Susquehanna county —measures will be immediately taken for the commencement of the work.

The road from Cleveland to Columbus (Ohio) is soon to be completed. Cincinnati has now a good prospect of having two lines of railroad communication to the lake within two years, one terminating at Sandusky and the other at Cleveland.

The bill, chartering a company to construct a railroad from Lynchburg to the Tennessee line, passed the Senate without amendment. It provides that when $120,000 are subscribed, the charter shall be secured. The editor of the Virginian says that, the "friends of this great scheme—being disappointed in their reasonable expectations of State aid—have now only to exert themselves to organize the company, and put a portion of the work under contract, before the meeting of the next legislature, to present themselves in an attitude which will prevent that body from again withholding the usual subscription. We hope not a moment may be lost in opening the books. Let every one subscribe according to his ability. The money can, and must, be promptly raised."

Mr. Ellet, the engineer and contractor of the Niagara suspension bridge, has stated that by the first of June next the work will be so far advanced that he will be able to cross on horseback.

There was carried on the Eastern Counties railway, in England, during the year 1847—2,471,381 passengers.

A New Steam Engine.

The Cincinnati Dollar Paper says that Mr. J. H. Lanning, of that city, has "fitted up two small steam engines, in a temporary way, one a high pressure steam engine, the other a low steam condensing engine, on the Watt & Bolton principle. When in operation, the low steam engine, though very imperfect in its construction, exhibited power equal to the high one. Not with steam from a boiler, but with steam from a reservoir of the escape steam from the high steam engine, which he had considered and pronounced an impossibility. The inventor asserts most positively, that he can furnish an engine on this principle in place of the old one lately fitted up at the water works, and run it constantly with the escape steam from the two, (perhaps one,) new engines, with as much power as the old one, now in operation, can be run with steam direct from the boilers, 100 to 120 lbs. pressure to the inch, and now run at an expense of five or six thousand dollars per annum for fuel. Consequently the second engine on this principle could be run all the time the other two are running without any expense for fuel."

The Cuyahoga Works.

"Passing along the river this morning," says the editor of the Cleveland (Ohio) Herald, of March 25th, "we were attracted by the din and bustle of the workmen employed by the Cuyahoga Steam Furnace company, and to gratify a very natural curiosity, ventured within its walls. The gentlemanly superintendent of the company accompanied us through the different departments, directing our attention first to one piece of machinery, and then to another, explaining the peculiarities and uses of engines, etc., in different stages of progress towards completion, until confused fancies of cylinders, shafts, pistons, plates, boilers, etc., were flitting through our mind, to the almost entire exclusion of our usual train of ideas. Several gangs of hands were engaged upon steam boilers, others were turning shafts and pistons, polishing the nicer portions of an engine, or setting up those parts already completed.—Some were engaged at the forge, some cutting the pieces of iron to the proper size and shape, some making patterns, and others preparing for moulding the metal into new and useful forms. The mould for a steamboat shaft attracted our attention in particular. When ready for use, this mould is placed upright in a pit 30 feet deep, and the metal poured in at the top, which is nearly on a level with the floor. In fact all was bustle, business, industry, as all must be, where 180 men are constantly and profitably engaged within the same enclosure.

"The Cuyahoga Works are now engaged on five engines, besides a large quantity of less important machinery. The new propeller, Montezuma, owned by Niles & Wheeler, of Buffalo, is now taking in her engine, and will be ready for use the first part of April. She is to be commanded by J. C. Gibson, formerly clerk of the steamboat Empire.

"Mr. I. L. Hewlett's new propeller Ohio, which is to be under the command of Capt. Haggidorn, is being furnished with a single engine, with one wheel, comprising various improvements, and will be ready soon after the middle of April. An engine of the same kind is also in a state of forwardness for the propeller now building by the Messrs. Turner, for Mr. N. C. Winslow.

"A low pressure engine, of very perfect workmanship, and embracing several valuable improvements, is ready to be put into the steamer Arrow.—This engine is 325 horse power.

"A low pressure engine similar to the one last mentioned, of 450 horse power, is building for the steamboat Pacific, which is expected to arrive soon from Newport, Michigan, where she was built, for Messrs. E. B. & S. Ward. These five constitute the heavy work now in hand at these works. It may be proper here to state that the Cuyahoga works construct the only low pressure engines that are made west of New York city. About four years ago the gentlemen connected with these works commenced improvements upon high pressure engines, and those acquainted with the fact will not require to be told that they have been brought to a high state of perfection.

"They have now commenced, with every prospect of complete success, the improvement and manufacture of low pressure engines, and we trust there will no longer be an excuse for transporting engines of any description from New York to be used on our lakes. An attempt was made some time ago, at Pittsburg, to make low pressure engines, but it signally failed, and the Cuyahoga works, as we have before said, stand alone in the west, as the manufactory of this kind of machinery."

Cleveland and Pittsburg Railroad.

We perceive by the Cleveland Herald of 29th ult., that the mayor of that city had convened a special session of the city council to consider the expediency of subscribing $100,000 on the part of the city to the stock of the Cleveland and Pittsburg railroad, and if they deemed it judicious thus to subscribe, to take the proper steps to obtain a vote of the citizens of that place at the election on the ensuing Monday. The editor of the Herald subjoins the following:—

"Where so much is at stake, and where so small an amount is asked, and that all to be expended between this place and Hudson, in Summit county, and where the effect will be at once to aid the construction of the Columbus and Cincinnati road, as well as to connect us with Pittsburg, Philadelphia, and the great cities and railroads of the east, we feel an abiding confidence the council—the citizens of Cleveland—and the commissioners, will all say AYE, and that in the language of Mesmerism, we shall soon be in connection (railroad we mean) with the rest of the world."

We also learn by the same paper, that a meeting of the citizens of Cleveland has been held to confer relative to the above road, and hear the report of the committee appointed at a previous meeting to obtain subscriptions. "J. A. Foote, Esq., was called to the chair, and Mr. J. L. Weatherly appointed secretary. Mr. J. Lyman, chairman of the committee reported that during the day a few of the citizen

had been called upon, and that the amount of $15,000 had been subscribed. A resolution was adopted requiring the chairman of the meeting to appoint six additional members to the subscription committee. Alexander Seymour, M. C. Younglove, G. A. Benedict, J. A. Briggs, T. P. Handy, and J. A. Foote, were named as such under the resolution. Some interesting speeches were made by Judge Humphrey, S. Starkweather, Esq., and other gentlemen, when the meeting adjourned."

In relation to this meeting, the Herald remarks that it appeared to be favorably disposed towards the construction of the Cleveland and Pittsburg railroad, and this without abating one jot of their good will towards the Columbus road, and then adds:—

"Of the importance of the enterprise, no one expressed a doubt. Good wishes were lavishly bestowed, and promises of the most liberal character were made without stint. It was confidently stated, however, by gentlemen supposed to be informed in the premises, that something more substantial than good wishes and good promises will be needed to ensure the prosecution of the work. The citizens of Cleveland are called upon to furnish means to grade the road to Hudson, a distance of 24 miles. This, it is thought, is a small demand upon the liberality of Cleveland. For this purpose the sum of $75,000 is required. Shall it be forthcoming? We have not so far lost confidence in the discernment and ability of our citizens, as to suppose a negative possible. A few days will determine the whole matter, and for the honor and prosperity of Cleveland, we hope the amount will be subscribed.

"The following gentlemen constitute the committee whose duty will lead them to solicit subscriptions to aid in constructing this road:—Joseph Lyman, S. Williamson, J. A. Harris, E. G. Williams, and Thomas Bolton."

Mansfield and Sandusky Railroad.

The road is fifty-five miles in length, commencing at Sandusky City, on lake E ie, and extending to Mansfield, in Richland county. We have just received the report of the directors, bringing down the business and affairs of the road to January 1st, of this year.

This road was opened its entire length, as stated in the report, in June, 1846, and its earnings for that year are put down at $49,499—expenses of running and repairs, $17,437—net receipts, $28,061; of which $17,404 was applied to the payment of interest on the debts of the company. In 1847, the earnings were $85,403—the expenses of running and repairs, $23,997—net receipts, $61,406; of which $18,407 was applied to the payment of interest. We omit fractions.

The company has 6 locomotives, 2 first class passenger cars, 1 eight-wheeled and 35 four-wheeled freight cars, 50 four-wheeled cars, of the capacity of 150 bushels each. The warehouses used by the company seem to be of liberal capacity and number, but appear not to be owned by the company.

The cost of the road is stated at $702,111; machinery and cars, $106,449—total $808,560. Capital stock, $450,000; indebtedness, $387,385—total $837,385. Available assets, $79,363. The company is authorised, by a recent act of the legislature, to increase its capital stock to $900,000.

The business of the road appears to be in a flourishing condition. The number of passengers conveyed in 1846 was 9,873; in 1847, 20,737. In 1846 bushels of wheat 306,256; this item of transportation was increased to 504,081 bushels in 1847. In 1846, 9,502 barrels of salt; 1847, 6,613. Flour in 1846, 11,313 barrels; in 1847, 65,538. Other items, including seeds, pork, butter lard, wood, cranberries, etc., show a large and prosperous business.

The directors of the Mansfield and Sandusky company have formed a connection with the Columbus and lake Erie railroad company, and a roadway is now in process of construction from Mansfield to Newark, in Licking county, 60 miles. The grade of this road will be completed, it is thought, by August, of the present year, and be ready for the iron early in 1849. The belief is expressed that this line will be extended to Columbus by the way of Granville, at an early day, and that a road will be constructed from Newark to Zanesville, 24 miles.

Report of the Officers and Directors of the Mansfield and Sandusky Railroad Company, to December 31, 1847.

The Mansfield and Sandusky city railroad was commenced at an early day of railroad enterprise in our State—under a charter authorizing the construction of a road from Mansfield, in Richland county, to New Haven, in Huron county—by the citizens of Richland county, who believed that a railroad from the country seat of Richland to the lake would raise the value of its products, as well as of adjoining counties, and very largely increase improvements, business enterprize and taxable property, and open to the inducement of capitalists a manufacturing district which is unsurpassed by any section of the State.—This portion of the State lay dormant, like other central and western sections, for want of means for transportation to and from commerce, the products which were so abundant, and the staple articles of consumption so much needed, and which could only be procured at a heavy expense.

Those engaged in the original enterprize, went on in full faith that ere long they would accomplish the noble work by their own energy, and they expended large sums before they succeeded in opening a way to the lake towns. From Mansfield to New Haven via Shelby and Paris, the route adopted was 24 miles.

A road called the Monroeville and Sandusky city railroad, was built and used by horse power about the same period, 16 miles in length, nearly a due south course from Sandusky, which enterprize was accomplished by the citizens of Monroeville and Sandusky, together with a loan, made after much effort, from the State, of $33,000, redeemable in 20 years, with interest payable semi-annually. This road—being so short, and by putting its prices low, with an ordinary superstructure, but partially ironed, and limitedly stocked—became embarrassed, and in 1842, or 1843 was sold by the State to the Mansfield and New Haven railroad company for the amount of the principal of the debt of the State, and thereby both were merged into one road, under the style and corporate name of the Mansfield and Sandusky City railroad company, by which an outlet was found and secured to the company first referred to. The distance then remaining unbroken, lay between Paris and Monroeville, in length about 20 miles.

In the summer of 1843, subscription books were opened at Sandusky, and at other places, to obtain capital to reconstruct the road between Sandusky and Monroeville, and build the link between Monroeville and Paris, and supply the necessary machinery and cars;—but owing to some losses which the citizens of Sandusky sustained in the Monroeville road, it was found impracticable to obtain the necessary capital from that source.

A private company soon after proposed to construct the road north of Paris, to Sandusky, a distance of 36 miles, and take the stock of the company for the same. The board of directors, after deliberating upon the matter for several weeks, accepted the proposal, and thereby divided the road into two sections, north and south, apportioning to each its proportionate amount of capital stock, and in the same agreement provided for the erection of depots and warehouses, etc., at Sandusky, thereby providing means, and securing the prospect of completing the entire line from Mansfield to Sandusky, a distance of about 57 miles, early in the fall of 1845.

The entire opening of the road was, however, delayed by the tardiness of contractors having the grade from Paris, north, until June 10, 1846—thereby losing the benefits of the road for the fall of 1845, and spring of 1846. The enterprise has, however, been completed, after almost 10 years' toil of its projectors, and by the aid, effort and skill of the few, who renewed their efforts, and others who with them undertook to complete the company's road in 1844, pledging their private means for the benefit of the company, to make its completion certain. Since the completion of the entire road, the stock interest of all concerned has been consolidated, and the interests of the stockholders are alike in the entire road.

Since the opening of the road, depots at Mansfield have been completed, water stations have been provided, engine houses built, turntables located and built at all the side tracks at Shelby, Paris, Centreville and Monroeville; engines and cars have been provided and built, as speedily as was practicable.

The shop connected with the depot of the company at Sandusky, is provided with all the necessary labor saving machinery that will ever be needed for an increase of business, or an extension of the road; and is such that wood or iron work of cars may at any time be built rapidly, and to any extent. Machinery for any kind of repairs to locomotives, or making tools for other uses and shops, are provided. About 50 wheat cars, of 150 bushels capacity each, constructed with hopper bottoms, are completed, and 10 additional ones are in readiness to be put together. About 40 freight and merchandize cars are also in use, with 10 additional ones constructing. The company have two eight wheel passenger cars, besides one baggage, and five supply wood cars, so constructed as to be available for freight; one eight wheel freight car, of a capacity to carry 100 barrels flour, is just completed, having a new, simple and cheap truck, and firmly built, which, by a memorandum of its cost, is found to be the cheapest and most economical kind of cars for the company to use in future—the construction of which it is proposed to continue

as rapidly as the wants of business require.

The company have on its road six very superior locomotives, all of which are available for immediate use. Two more are under contract, deliverable the ensuing year.

The directors have confided in their superintendent to procure its machinery, arrange its shops, etc., which he has done with a view to simplyfy and cheapen the expense of construction and repairs of cars and machinery, and which has, in the estimation of the directors, been more fully effected on this than any other railroad yet constructed. A reference to the current expenses for the past year, will fully establish this belief. With some companies of large and inexhaustible capital, such economy need not be studied, and liberal expenditures may be represented as useful in experimenting for the benefit of the enterprise. It will, however, be admitted by managers of railroads, that current expenses and repairs should be reduced as much as possible; and in almost all cases, it cannot be so effectually done as in the commencement of a road, in its grades and width of track, proportions of structure, and machinery, and such arrangements for business as are suggested and dictated by good mechanical judgment, thereby enabling a company to make profitable dividends, securing durability to its road and fixtures, and cheapening the transportation of freight and passengers.

The construction of this road has given an impetus to Mansfield and the surrounding towns, together with the towns upon the line of railroad, and to Sandusky city, which far exceeds the estimate made three years ago by our most sanguine friends. It has also created an interior market for the farmer, and, on an average, has doubled the value of his surplus products, and made such marketable as were not of cash value before; has cheapened all that he consumes, in the line of staples and domestics, one half their former cost, and has greatly increased the value of real estate, where its effects have been felt.

FINANCIAL CONDITION

Of the company, with a statement of its business, earnings, expenditures, etc., to December 31, 1847:

Capital stock, authorised by its charter.	$450,000 00
Bond debt, payable Oct. 1, 1855	260,000 00
Other indebtedness	127,385 60
General construction account, for right of way, grading, bridging, superstructure, etc	572,728 86
Iron account	129,382 48
Machinery and cars	106,448 81
Available assets of the company to meet its indebtedness	79,563 22

The road was opened its entire length in June, 1846, and its earnings and expenses are as follows:

1846.—(Say eight months' time.)

Freight earnings		34,840 42
Passage "		10,658 65
		45,599 07
Expenses, (running and shop,) fuel, oil, repairs machinery and cars	14,950 70	
Road repairs	2,486 81	
		17,437 51
Net		28,061 56
Deduct interest paid on bond, and other debts		17,404 86
		10,656 70

1847.

Freight earnings		61,528 18
Passage "		21,156 61
Mail "		2,719 00
		85,403 79
Expenses, (running and shop) machinery and car repairs, oil, etc.	18,407 27	
Road and bridge repairs	3,897 89	
Fuel, etc	1,692 60	
		23,997 76
Net		61,406 03
Deduct interest paid on bonds, and other debts		18,407 97
		42,998 06

Estimated amount of wood on hand, charged to fuel account, 1848, and paid for ..... 1,400 cords.

LIST OF MACHINERY AND CARS

On hand, available for the business of the road, and stock for additional cars:

1 8-wheel locomotive, 18 tons 4½ ft. drivers.
1 6-wheel " 25½ " 6 "
3 6-wheel " 14 " 4½ "
1 4-wheel " 7½ " 5½ "
2 1st class passenger cars (each 56 seats.)
1 8-wheel freight car, 100 bbls. capacity.
45 4-wheel freight cars.
50 4-wheel wheat cars, hopper bottoms, capacity each, for 150 bushels

NOW CONSTRUCTING.

10 wheat cars.
10 8 wheel freight cars.
2 25-ton locomotives—now under contract, to be delivered in spring and fall of 1848.

The net balance of earnings have been expended in car building, payment of current debts, machinery, materials for cars, building depots, and boarding houses for men employed on the line of the road.

Cars and engines are not depreciated by use, but are all available for the service of the road. The number of our freight cars has been inadequate for the business wants of the road; consequently, our receipts for freight are several thousand dollars less than they would have been, had the number of cars been adequate for the entire business that could have been secured for the road. This will be remedied for the future.

The depots and warehouses employed by the company, and individuals upon the road, are as follows:

At Sandusky city, one merchandise warehouse, 150 feet long, by 60 wide—capacity for storing 20,000 barrels of rolling freight. One wheat warehouse, 300 feet long, 60 feet wide, 3½ stories high in the centre, with two tracks, eight elevations and two lines of conveyers—capacity for storing 320,000 bushels wheat, and 20,000 barrels of rolling freight. Also 1500 feet of wharf, for steamboat and vessel accommodation.

At Monroeville, three warehouses for storage of 30,000 bushels wheat, and 3000 bbls. rolling freight.

At N. Haven and Paris, three warehouses for storage of 120,000 bushels of wheat, and 2,000 bbls. rolling freight.

At Shelby, two warehouses for storage of 70,000 bushels wheat, and 3,000 bbls. rolling freight.

At Mansfield, nine warehouses for storage of 300,000 bushels wheat, and 75,000 bbls. rolling freight.

Total, 840.000 bushels wheat; 123,000 bbls. rolling freight.

The directors of this company have formed a connection with the Columbus and lake Erie railroad company, chartered for the purpose of constructing a railroad from Mansfield to Columbus. Sixty miles of the extension by that company is already more than half graded to Newark, via Lexington, Bellville, Fredericktown, Mt. Vernon and Utica, to Newark. The grade will be completed by the 1st of August, and the bridging and superstructure will be completed for the iron early in 1849. Our gauge of track is to be used.

This extension, it is believed, will treble the receipts of our road. The article of mineral coal will be one item of the increased freight, used for consumption at Sandusky city, and the supply of steamboats, is estimated at 30,000 tons per annum; and the article of pig iron at 5000 tons; for other purposes on the line of road, and as an article of merchandize, at 25,000 tons of coal, and 5,000 tons of iron in addition, and a due proportion of other freight.

The extension of that road is looked upon as certain, at an early day, to Columbus via Granville—the survey of which will go on in the spring. A charter is already obtained and stock subscribed, for a road between Newark and Zanesville, a distance of abont 24 miles, which it is hoped will be completed in 1849—thereby extending our line of road to one of the most extensive coal districts in America, and where iron is to be had in abundance—which two staples or minerals are indispensable to the trade and entirprise of the lakes. It will also connect us with the navigable waters of the Muskingum and Ohio rivers, and the national road. With these prospects, the stock investment of our road may be estimated as among the best in the State, and ere long to pay large dividends, and the shares of stock available and convertable into money at all times, above their cost to the holder.

For the benefit of those who may read this report, and who are not conversant with the particulars of the road, it may be interesting if we state some particulars relating to the construction of our road.

Our width of track is five feet, four inches; the timber material is of sound white oak and blackwalnut timber; the sills used on 36 miles of the north end, are seven by fourteen and eight by sixteen inches, hewed from the body of the tree, and fifteen to seventy feet long; in the south end they are chiefly sawed by a mill, six by fourteen inches, and twelve to eighteen feet long. Rails in the south end, are six by nine inches, and in the north end, eight by nine and eight by ten in. Ties are nine feet long, all split nine to eleven inches deep, eight inches on the sap side, and two to four in the heart, laid with the heart up, and locked over the sill, spiked or pinned with cedar pins, and laid forty-four inches apart.

The bridges are of the most simple construction of truss work, firmly braced crosswise from sill to cap, and bolted through four perpendicular posts, with a span of 22 feet. No covers or side railing above the platform. Total lineal feet of bridging is about 4,000 feet.

The iron is chiefly of the flat bar, (American) seven-eighths of one inch thick, 2¼ base, and 2¼ at the top, of the U shape, laid upon ribbon 1½ by 3 inches; and before laying the ribbon a preparation of tar, pitch and paint, heated, was spread over the upper surface of the rail in two coats, which filled the checks and pours of the timber, effectually excluding the watar from the same, and preventing decay. This, thus far, has effected the object intended, and will no doubt double the life of the rail.

The truss work of our turntables is constructed of two pieces of timber, seven inches by thirty, and thirty-three feet long, placed at the width of the track, framed with five cross pieces of same thickness and width—except the centre one, which is twenty-six by thirty inches—and fastened with twelve three-quarter inch rods. The table is set upon a platform base of two cross timbers, twenty inches square, and a circle of twenty-four feet in diameter is framed in segments of timbers ten by sixteen inches, on which is laid a rail plate for the castors to track upon. The table stands upon a centre pin of the capacity of 100 tons pressure, a graduating screw, cut on the lower end of the pin, about eight inches in length, and turned by a winch on the pin head, to raise or lower the table so as to give the entire pressure of the table and engine to the centre pin. Its rotary motion is eased by four 14 inch iron castors, or wheels, which traverse the circular track before spoken of; these prove to be cheap and easy tables upon which to turn the heaviest engine; two men, with a ten feet lever placed at one end of the machine, can walk an engine either way with ease and speed. They were originated and built by our superintendent.

The grade of the road in no case exceeds 40 feet to the mile, and there are only about two and a half miles of that grade, and less than a mile in any one place. There are about five miles of 30 feet grade collectively, and about eight between 20 and 30; the balance is below 20, and mostly level, to 14 ft. grades. The road bed is of sand, gravel, gravel and clay, and slate and lime rock, with pile foundations in the clay embankments, of several miles. Experience has fully convinced us that our width of track—or about five feet six inches—is in many respects preferable to four feet eight or ten inches, now in common use. Such a width will enable machinists to construct locomotive engines, to give them more symmetry and better proportions, at about the same cost, with increased power and strength, and may be run with the same fuel, oil and men, with more uniform speed than those now used upon the narrow gauge. The lateral pressure of the wide engine in running is much less, as also a train of cars, at a speed of 12 to 20 miles per hour, upon the track, consequently less friction on the rail, which requires power to overcome. The gauge of five feet four or six inches admits of a fire box three feet ten inches in width, and as long, of course, as the narrow gauge, which admits of but two feet nine inches to three feet, and so usually built. The width is the preferable surface to increase the fire box, so as to admit a free and constant passage of the heat from the furnace into the flues. Experience has convinced us that increasing the number of flues to obtain fire surface, is better than to lessen the number and increase the length. A flue of nine feet keeps free of coal and ashes, by the exhaust, when ten feet becomes obstructed—and those twelve to fourteen feet need cleaning daily. If a flue keeps clean by the exhaust, it is evident that the fire will burn free, in which case the runner will keep uniform steam. Flues nine feet and shorter are easily kept tight, while those ten, twelve and fourteen feet leak and settle by expansive heat.

We are also convinced that road repairs are less upon the wide gauge; car platforms can be better proportioned for carrying freight and a greater tonnage can be carried at less elevation than upon the narrow gauge. A train also runs with less oscillating motion.

Our views for the wide gauge being preferable to the narrow, in common use, are full given in a communication, (in which we concur) from A. C. Morton, chief engineer, on the gauge of the St. Lawrence and Atlantic railroad, published in the American Rail road Journal.

The company have a valuable mineral spring within its roadway, seven miles south of Sandusky. that discharges 300 gallons per minute, the water of which effectually preserves timber from decay by exposure, for any length of time. The time required by green timber is about three weeks' saturation, after which it dries in a very short time, when it will not absorb water or heat, and is of increased strength. All kinds of timber are alike affected by it. Three hundred feet from where the water rises, vats or reservoirs may be built by the roadside to receive the water. to the depth of six or eight feet.

THE FOLLOWING TABLES

Show the number of passengers, and the quantities of the principal articles of freight transported over the road for the years

	1846.	1847.
Passengers	9,873	20,737

1846.

Wheat	bushels,	306,255
Corn, oats and barley	"	4,369
Flour	barrels,	11,315
High wines and whiskey	"	1,125
Cranberries	"	839
Eggs	"	56
Salt	"	9,502
Wool	pounds,	116,833
Butter and lard	"	309,742
Ashes	"	230,535
Tobacco, in hhds	"	42,192
Pork, bacon, etc	"	86,957
Seeds, flax, clover, timothy	"	442,206
Dried fruit	"	19,494
Merchandize and furniture	tons,	1,847

1847.

Wheat	bushels,	504,081
Corn, oats and barley	"	13,713
Potatoes	"	2,912
Flour	barrels,	62,598
Whiskey and high wines	"	3,235
Salt	"	6,613
Cranberries	"	1,046
Shingles	M.	611
Dried fruit	pounds,	181,450
Oil cake	"	47,605
Tobacco, in hhds	"	80,190
Seeds, flax, clover, timothy	"	1,012,972
Butter and lard	"	680,248
Pork, bacon, etc	"	1,361,624
Ashes	"	396,560
Wool and feathers	"	210,903
Merchandize and furniture	"	3,110

An amendment of our charter has recently passed the legislature, authorizing our capital stock to be increased by a vote of stockholders, at the next annual meeting, to $900,000—the adoption of which the directors recommend.

E. HEDGES, Pres't.
WM. PATTERSON, Sec.

Mansfield, February 15th, 1848.

Rutland and Burlington Railroad.

Report of the directors of the company at their annual meeting at Rutland, held 12th January, 1848.

We give in this number the first annual report of this company. It exhibits the condition and prospects of the company in a very favorable light, and shows the indomitable perseverance of its friends. The Mount Holly route was represented by many—and believed by more—to be entirely impracticable, but it has been found to be much less difficult than some of the most important lines in the country.

Two very important and gratifying facts are set forth in the report, viz: that the work will, *in all probability*, be completed by the 1st of January, 1850, and *within* the original estimate of the engineer! And we may add another excellent feature in the affairs of the company, viz: that their instalments have been promptly paid, and are likely to be to the end of the chapter.

We shall have occasion to refer again soon to this line, and its extension to Montreal, and to Ogdensburgh, New York, and thus open an easy connection with the lakes.

The act incorporating the Champlain and Connecticut River railroad company, (now the Rutland and Burlington.) makes no provision for a detailed report to the stockholders, or even to the legislature, of the proceedings of the corporation, their receipts and expenditures, except through a committee of the legislature, specially appointed for that purpose. It is believed, nevertheless, that the present occasion may be fairly improved to present to this large assemblage of stockholders a summary, at least, of the proceedings of their directors during the past year, with a statement from the treasurer of the corporation, showing its past receipts and disbursements, and our present fiscal condition.

The enterprise in which we are engaged, gentlemen, is one of great interest and importance, not only to us, its stockholders, and the immediate region of country through which the road passes, but to the whole State of Vermont, to Boston, to New England, and to New York. A country fertile in the productions of agriculture, and rich in minerals to an unparalleled extent, is penetrated by this road, and rendered accessible at all seasons of the year. By it the markets of the Atlantic are brought to our doors, and over

it the trade and travel of the mighty west and Canada will find their outlet to all our great cities and towns.

It is not the purpose of the directors to recapitulate the embarrassments and difficulties which beset this enterprise in its early stages. To *some* extent they might perhaps have been rationally anticipated, as incident to all railroad undertakings. But you cannot fail to remember how often and how seriously the existence of this project was threatened and perilled. To its *great merits* alone are we indebted for the cheering prospects now before us. Those prospects justify the anticipation of an early completion of our great work; a completion, too, according to our original design, connecting the river and the lake; and within the estimates furnished by our chief engineer, upon his preliminary survey.

It will be recollected that in January, 1847, the directors accepted the proposals of a party for the grading, masonry, bridging, superstructure, and laying the iron rails, on the Burlington division of the road, extending from Burlington to Brandon, a distance of about 51½ miles. The party alluded to failed to enter into a written contract, though called upon for that purpose, or to commence the work as agreed; whereupon the directors, regarding the matter as an abandonment, on or about the 1st of May, 1847, proceeded to relet that division of the road, which they were enabled to do to a company of contractors on equally favorable terms. The work was thereafter immediately commenced, and has been prosecuted since with as much energy as seemed to be required to secure its completion within the season of 1848.

The grading and masonry on that part of the line extending from Bellows Falls up to, and including, the summit at Mount Holly, was also put under contract in January, 1847. On this division of the road, a portion of the work has been interrupted, and in one instance suspended for a few weeks, by the failure or abandonment of the contractors. This portion has been *relet*, and the whole is now in the hands of parties on whom the directors confidently rely for as early a completion of the work as the nature of the country and the obstacles to be overcome will justify or permit.

In June, 1847, the directors put under contract the balance of the whole line, being the Rutland division, extending from the western slope of the summit at Mount Holly to the village of Brandon. Some of the contractors on this division, also, have abandoned their work, and the same has been relet to others, with the exception of some few light sections which do not require immediate attention, and which can be safely postponed to the opening of another spring.

From the foregoing statement you will perceive that the whole line of the road has been placed, during the year 1847, and *now* is, with a very slight and unimportant exception, under contract. The rates at which this work has been undertaken are generally very favorable, and the contractors are men of experience and ability. That portion of the road between Burlington and Rutland, and between Bellows Falls and Ludlow, in all over 90 miles, will, it is confidently believed, be in readiness for the cars by the first day of January, 1849, and the remainder at a somewhat later period during the same year.

It has thus far been the policy of the board to urge the work of grading only on sections where a large amount of excavation or embankment was to be encountered; sections less formidable, and requiring less time to complete, have been postponed—intending thereby to perfect, as near as possible at the same moment, long and uninterrupted portions of the line, without unnecessary loss of interest. These lighter sections will be commenced as early in the approaching spring as the weather and season will permit.

A proposition, from a contractor of great experience, to construct the bridges on the Bellows Falls, Mount Holly, and Rutland divisions, has been made and accepted. These structures, so indispensable to the safe running of the road, and necessarily so expensive, have engaged the careful attention of the board, and they have sought the best lights of experience and science to guide them to a correct result. The "Howe plan," so called, has received their approbation, and been adopted.

On the 14th of June, 1847, the directors entered into a contract with an extensive iron manufacturer of Boston, for the rails sufficient for the whole road, and on terms which, at the time, were regarded as highly favorable to the corporation. He has recently been compelled to yield to a severe pressure in the money market. Previous to which, however, and with his concurrence and assent, he had been released from the delivery of the first two thousand tons of these rails, and the same quantity has been contracted for of English manufacture, and at rates more favorable than had been stipulated for in the original contract. Our interests with regard to the balance of the contract, are more especially confided to the gentlemen of our board resident at Boston, whose watchful care will be always directed to the subject, and through whose agency and instrumentality we have reason to hope for an early and satisfactory adjustment of the subject.

The board take much pleasure in being able to state that for the cast iron work required in the construction of the road, and for its car furniture, we shall not be obliged to depart from its line. The iron manufactured at Brandon and Pittsford from the brown hematite ore, has acquired, as it deserves, a high character for strength, tenacity, and solidity. By the manufacturers there, we are to be supplied with our rail chairs, and all other necessary cast iron appendages. In this connection, it is proper further to remark, that enterprising individuals have recently erected an extensive manufactory at Brandon for the construction of railroad cars of all descriptions, with whom we have contracted for 190 freight cars, 40 gravel cars, and 8 baggage cars. We shall be enabled, we trust, to procure from them any further quantity we may require, including perhaps passenger cars of material, workmanship, style, and finish, equal to any now manufactured in the country.

The directors have also contracted with the Taunton locomotive manufacturing company for eight engines of eighteen tons each, for passenger service, and four engines for freight service of twenty tons each. This contract, compared with present prices, for such machines, is highly favorable for the corporation, and we have the fullest confidence in the ability and disposition of the contractors to give them to us of the very best material and workmanship, and embracing all the improvements of the present day.

Contracts for a large portion of the materials to be used in the superstructure of the road, such as subsills and ties, and for fencing lumber to a considerable extent, have been entered into.

The directors have concluded an arrangement with the Cheshire railroad company, by virtue of which, the two corporations are to use, in common, the depot grounds and depot buildings at Bellows Falls, the common termination of both roads at Connecticut river. A large saving of expense is, by this measure, secured to both corporations, and the greatest facility afforded for the interchange of business, on both lines of road.

On the subject of land required for depots, and land for the road bed, the directors have to communicate that at Burlington, Vergennes, Middlebury, Brandon, Rutland, and Bellows Falls, the land for depot use has been principally secured. The quantity taken varies at the different localities, as in the judgment of the board the future wants of the corporation may require. An opportunity was presented at Burlington for the purchase of a tract of land of about seventy acres, on terms considered so favorable that it was embraced at once. Portions of this tract will not be required for immediate use, and should the corporation so determine, might be sold either *now*, or probably at any future period, at a considerable advance upon its cost. It is rapidly increasing in value, and in connection with other lands owned by the corporation, (giving us a lake front of about 2800 feet contiguous to the business section of the town, and in immediate connection with our depot buildings,) cannot fail to increase in value for many years to come. These grounds afford ample room for the accommodation of all the roads which may ultimately terminate at Burlington, and it cannot be doubted that the wise and comprehensive policy which originated these great enterprises, will, in the end, connect them where the public convenience unites with the interest of each corporation to bring them all to a common termination.

The depot grounds at Rutland have been laid out, and the grade and track adjusted with reference to a connection with the Rutland and Washington railroad—a road recently chartered, and one, it is confidently believed, soon to be built. This last road, connecting with the Whitehall and Saratoga railroad, opens to us the waters of Lake Champlain at the head of navigation, the

markets of the Hudson river, and the immense trade and travel of the great west.

So again at Bellows Falls—our grounds there will afford ample accommodation not only for our own, and the Cheshire railroad, but for the roads in the valley of the Connecticut, diverging therefrom, both above and below; to all of which the access is easy, with favorable grades and curves. From this point, railway communication is soon to be opened, northwardly, through the valleys of the Connecticut and Passumpsic, to the north line of the State, and thence with Montreal; southwardly through the valley of the Connecticut, with Springfield, Hartford, New Haven, and New York; eastwardly over the Cheshire, and Vermont, and Massachusetts, with Boston and the great manufacturing towns on the Merrimack river. Indeed it may be said that when the line of the Rutland and Burlington railroad is completed, with all its connections now in progress of construction, we have a direct railway communication with almost every important city and town in New England and New York, and access to the great markets of Canada and the trade of the boundless west.

The depot grounds at the other very important and thriving villages named, are of sufficient extent to accommodate, amply, it is believed, the business of these towns and of the country which surrounds them—the directors intending, in this matter, to secure room enough at all places for every probable contingency.

Much effort has been made, and a deep anxiety felt, to secure the land for our road bed by private negotiations with the proprietors. In this effort the directors have been successful to a considerable extent, though not entirely so. It has been found necessary to call upon the commissioners appointed under the provisions of our charter, for an appraisal of a portion of the land required, in all the counties except in the county of Chittenden. These appraisals have thus far, we believe, given very general satisfaction; but few appeals having as yet been taken therefrom.

At the last session of the legislature, an amendment of our charter was obtained, which authorizes the construction of a branch from our main line at Vergennes to the navigable waters of the Otter creek. The great importance of reaching those waters must be obvious to all. We thus come in connection with a very extensive water power, now considerably improved, and with the navigation of the lake through the creek, at a point opposite one of the great iron regions in northern New York, where is already concentrated a large amount of foreign and domestic capital. The directors have presumed the company would accept the grant thus made, as an amendment to their charter, and in this belief have invited proposals for the grading and masonry of this branch road, have received such as are satisfactory, and, unless otherwise ordered, will proceed to accept the same, and enter into the usual contracts for its construction.

The financial condition of the corporation is shown in the treasurer's report, herewith communicated. From this it will be perceived that the sum of $116,417 39 is in the hands of the treasurer, subject to his order. Notwithstanding the work performed has been paid for on the commencement of every month, cash has accumulated beyond our immediate wants; and, to prevent any loss of interest, the directors have loaned it in Boston, from time to time, on short paper, with ample security.

The experience of the past year, though attended by some of the delays and disappointments to which all human affairs are subject, has inspired the directors with renewed confidence in the feasibility and profitable character of the undertaking. The steadiness of our stock in market, under a severe pressure for money, furnishes the surest evidence that this line of road has now obtained the favor and confidence its great merits so eminently deserve.

The zeal, energy, and perseverance of the stockholders, which have hitherto characterized all their conduct, need only to be continued to bring the whole work to a speedy and favorable conclusion.

By order of the board of directors,

T. FOLLETT, *President.*

TREASURER'S REPORT.

SAMUEL SWIFT, *Treasurer, in account with the Rutland and Burlington Railroad Company,*

DR.

To the whole amount received on assessments to the 31st Dec., 1847.....	$356,675 50

CR.

By payment of the following sums:	
For preliminary expenses.....	$6,439 88
" incidental expenses.....	2,827 58
" engineering.....	25,279 23
" land, land damages, and fencing...	40,254 39
" construction.....	163,581 50
" salaries.....	1,321 00
" balance of interest.....	254 53
Balance in deposit, subject to the control of the treasurer.....	116,417 39
	356,675 50

SAMUEL SWIFT, *Treasurer.*

Exhibiting the aggregate amount of earth, loose rock to be excavated, the amount of culvert, bridge, and arch masonry, bank or supporting wall to be laid on the line of the Rutland and Burlington railroad, as estimated by the engineer, upon the final location of the same.

STATEMENT

DIVISIONS.	GRADING. Earth, cubic yards.	GRADING. Loose rock, cubic yards.	GRADING. Solid rock, cubic yards.	MASONRY. Culvert masonry, cubic yards.	MASONRY. Bridge masonry, cubic yards.	MASONRY. Arch masonry, cubic yards.	MASONRY. Bank wall, cubic yards.	
Burlington division.	1,544,596	12,491	41,500	7,137	13,220	*	1,350	22,406
Rutland "	1,763,744	13,350	47,532	8,705	14,480	916	2,000	
Mount Holly "	873,954	4,035	99,938	3,119	5,538	780	266	
Bellows Falls "	1,062,429		86,319	3,358	8,797	170	18,500	
Total quantities....	5,244,723	29,876	275,289	22,319	42,035	1,866	22,406	

* Including arch.

STATEMENT

Exhibiting the amount of work done up to January, 1st, 1848.

DIVISIONS.	GRADING. Earth, cubic yards.	GRADING. Loose rock, cubic yards.	GRADING. Solid rock, cubic yards.	MASONRY. Culvert masonry, cubic yards.	MASONRY. Bridge masonry, cubic yards.	MASONRY. Arch masonry, cubic yards.	MASONRY. Bank wall, cubic yards.	
Burlington division.	398,043		11,737	1,708	1,012		13	2,629
Rutland "	101,553	232	2,463	1,335	108		2,616	
Mount Holly "	226,333	2,584	8,877	915	500			
Bellows Falls "	354,626	1,113	19,071	1,266	2,172			3,792
Total quantities....	1,080,555	3,929	42,148	5,246	3,792		2,629	

Stone for bridge and arch masonry has been procured and prepared for much of the heavy work by the contractors upon the several divisions, which is not included in the work as returned at this date.

W. B. GILBERT, *Chief Eng. Rutland and Burlington Railroad.*

January 1st, 1848.

New Canal.

A new canal is contemplated from Buffalo to the canal dam below Black Rock, New York. The object is to procure a full supply of water to the enlarged Erie canal, independent of the mill privileges.

Reading Railroad Report for 1847.

At a meeting of the shareholders in this company, held on the 12th of January last, the following report was made by the managers. The report of the engineer and superintendent will be given in our next.

To the Stockholders of the Philadelphia and Reading Railroad Company:

The managers have the pleasure to submit to you the yearly statement of the progress and position of the property under their charge.

They annex the report of the various officers, which will furnish minute details of their respective departments.

The floating debts of the company, which have heretofore been the only source of its embarrassment, have been so reduced that upon the application of the debts, etc., due the company, and devoted to this purpose, there will remain only such an amount as can soon be discharged.

To attain this result, bonds to the extent of $1,400,000, payable in 1856, have been issued, secured by mortgage, and the proceeds applied to the liquidation of the large floating debt mentioned in the last annual report, which was increased by the payment of the bonds which fell due on the 1st January, 1847.

The commissions and charges paid during the year, for acquiring the means to meet the bonds due at that time, and the floating debt

(both of which were created for the construction of the road, and for acquiring machinery, etc.,) amount to $143,027 47, which has been charged to the cost of the works, as it cannot be regarded as an item of current annual expense, and therefore, not properly to be deducted from the revenue account of this year.

Annexed is a statement of the treasurer, showing the liabilities of the company on the 30th November last, amounting in stock and debt to		$11,802,409 54
By reference to the report of the same officer, on the 30th November, '46, it will be seen that these liabilities were, (with the dividend of Jan'y, 1847, $312,000,)		11,499,069 02
Increase		303,340 52

The expenses for the past year were as follows, viz:

Real estate, report, 1847.	$430,767 51		
" 1846.	321,846 05		
		108,921 46	
Construction, eng. report, 1847		222,931 40	
Cars and engines, treas. statem't '47.	2,173,448 78		
do. '46.	2,091,279 16		
		82,169 62	
Materials on hand for transporta'n depart. for 1848, see tr. statem't for 1847	83,689 64		
do. 1846.	46,257 16		
		37,432 48	
Materials on hand for roadw'y depart., see tr. statem't '47.	21,409 55		
do. '46.	11,998 34		
		9,411 21	
Materials on hand for cars, engines, etc., see engineers report for '47.		15,573 90	
Railroad iron for new sidings, etc		9,740 99	
Land damages		9,304 38	
Commissions & charges.		143,027 47	
Philadelphia, Reading, & Pottsville telegraph st'k		8,350 00	
		646,862 91	
Deduct profits expended	359,122 39		
Less, tax on dividend, January, 1847.	15,600 00		
		343,522 39	
			303,340 52

The very rapid increase in the shipment of coal, and the constant demand for shipping facilities, induced the managers to provide for the future wants of the company, by the purchase of about twenty-two acres of land fronting the river, and adjoining their wharves at Richmond, on the south. This was the only property, by the ownership of which, the company could provide themselves with the means of increasing the number of their wharves when required, and if the opportunity to secure it had been neglected, a serious inconvenience would hereafter have been felt, and a limit placed upon the future capacity.

The terms on which the land was obtained were deemed reasonable, ($93,000,) and the managers did not hesitate to avail themselves of the advantages present and prospective which such a purchase ensured. The value of this property will increase in the same proportion that the other real estate adjoining their works has advanced. Other purchases have also been made to meet the present and future wants of the company, at various points along the line of the road.

The other expenditures of the year will be found under the appropriate heads, in the subjoined reports.

The business of the road for the past year will be found to have fully equalled the estimated amount.

A table of the anthracite coal trade of Pennsylvania is appended. It will be perceived that the coal transported by this company in 1847 was 1,350,151 tons, which exceeds the quantity for the previous year 117,008 tons.

The increase from the Schuylkill region is 336,261 tons; and the amount produced by the whole State is 2,970,491 tons; equal in value, at tide water, (at $3 75 per ton,) to $11,139,341 25.

The population and wealth of the Schuylkill valley are yearly augmenting with great rapidity, and the attention of the managers has been called to the necessity of two passenger trains daily instead of one as heretofore. Satisfied that the wishes of the community would be gratified, and the revenue of the company increased, this measure was adopted. The requisite cars and engines are being built at the workshops of the company, and will be placed upon the road early in the ensuing spring.

The advantages to result from an immediate communication with the various points on the road were obvious, and the managers finding that the telegraph line could not be completed, without their aid, subscribed $8,350 to the stock of that company, and thus ensured its completion. The charter of that company gave the authority, and the line has proved of essential service. The investment, moreover, has yielded a dividend equal to 10 per cent. per annum.

The expenses of the past year have been increased beyond those of the previous one, as well by the greater tonnage transported as by the well known enhanced value of labor and materials.

The experiments now making by skilful engineers throughout the country to apply anthracite coal as the fuel of the locomotive, have received the attentive consideration of the managers. To no company could the attainment of this object be of greater value than to this. It is confidently expected that the experiments now making will be successful, and one of the chief items of the cost of transportation will be then diminished to a very great extent.

During the first six months of the past year, the shipment of coal from Richmond was retarded by the great scarcity of vessels, and the consequent high rate of freight.

Consumers at the eastward delayed their purchases in the expectation of reduced rates, and the wharves became loaded with coal.

The managers decided, in view of this state of the trade, to invite by favorable terms the dealers in New York, and the neighboring ports, (whose supply could be effected thro' the Delaware and Raritan canal,) to purchase their stock early in the season. These efforts were successful, and the wharves were cleared, though the revenue for the year was diminished by the unexpected emergency. During the part six months these temporary causes of delay having in a great measure been removed, the demand exceeded the means of the company to transport, and difficulty ensued from the insufficiency of the machinery to meet the requirements of the dealers and the public.

Should the consumption of coal continue to increase as heretofore, a like result will ensue, and more cars and engines will be sought for than the company possess.

Overtures have been submitted, with a view to enable the managers, to avail themselves of the use of the required machinery, without the necessity of its purchase. Thus the company might obtain 1000 cars, and the requisite number of engines, at a yearly rent, which, after deducting all average expenses, would realize a valuable increase to their revenue.

Should this arrangement be made, the company will be able to give satisfaction to all their customers, and be relieved from the necessity under which they have labored, of compelling some disposed to use the road during the past year to seek other means of transportation.

This overture has been made by parties residing in the eastern States, deeply interested in the permanent prosperity of the company. Its advantages are obvious, no debt is incurred, and a large profit may be justly anticipated.

As the course of the company has heretofore been to purchase machinery, the managers submit to you the propriety of obtaining the cars and engines in the manner proposed, and they do not hesitate to express their opinion that this method of obtaining the machinery will be found more beneficial to the company than the creation of a new floating debt for that proposed.

It will be perceived from the statement of the treasurer, that the present fund applicable to a dividend is $434,150 04, equalling 12 per cent. on the present capital stock.

The propriety of a stock dividend from this fund, is again submitted to you, who are alone authorized by law to pass upon it.

By order of the board of managers,

JOHN TUCKER, *President.*

Office of the Philadelphia and Reading Railroad Company.
Philadelphia, January, 1848.

The following gentlemen compose the board of managers and officers for the current year:—

President.—John Tucker.

Managers.—Samuel Norris, John Towne, Wm. R. Lejee, John Oakman, Christopher Loeser, *of Orwigsburg*, and Matthias S. Richards, *of Reading.*

Secretary and Treasurer.—Samuel Bradford.

General Account of the Philadelphia and Reading Railroad Company for the year ending November 30th, 1847.

To railroad	8,912,991 09		By stock shares, 68,640, at $50			$3,432,000 00
To railroad iron	9,740 99		By loans—6 per cent. loan of 1842, inconvertible, payable 1847		$23,550 00	
To construction	222,931 40		6 per cent. loan of 1839-40, convertible, payable 1850		2,170,500 00	
To commission and charges for negotiating loans, etc	143,027 47		" 1839, convertible, £109,000, payable 1850		523,200 00	
To damages	9,304 38		" 1843, mortgage, and convertible, £210,000, payable 1860	1,008,000 00		
		$9,297,995 33	6 per cent. loan of 1843, mortgage, and convertible, dollar bonds, payable 1860	480,000 00		
To locomotive engines and cars		2,173,448 78			1,488,000 00	
To real estate		430,767 51	6 per cent. loan of 1844, mortgage, and convert., payable 1860		1,399,000 00	
To depots		205,324 87	5 per cent. loan of 1836, mortgage, and inconvertible, £196,000, payable 1860		940,800 00	
To materials for transportation departm't, for value on hand	83,689 61		6 per cent. loan of 1845, mortgage, and inconvert., payable 1848		75,000 00	
			" 1845, " " " 1849		75,000 00	
			" 1847, mortgage, and convertible, payable 1856		1,400,000 00	
To materials for roadway department, for value on hand	21,409 55		By bonds and mortgages on real estate			8,095,050 00
			By sundry accounts—due to sundry persons	223,140 22		213,158 66
To materials for construction departm't, for value on hand	15,573 90		Notes payable	185,559 29		
		120,673 09	By G. A. Nicolls, engineer, etc	98,937 76		
To Philad'a, Reading, and Pottsville telegraph company		8,350 00	Deduct, viz:—Debts due the company. Transportation accounts due by sundry persons for freight tolls, etc	61,401 79	507,637 27	
			Notes receivable, and sundry accounts for ditto	333,716 68		
			By cash on hand	50,317 92		
					445,436 39	
			By dividend fund, balance subject to a dividend			62,200 88
						434,150 04
		12,236,559 58				12,236,559 58

Transportation Account of the Philadelphia and Reading Railroad Company for twelve months, ending November 30th, 1847.

To Expenses of Transportation, viz:			By business of the Road, from the following sources, viz:		
Running account, per statement B	527,559 24		Freight and tolls on coal	1,698,663 99	
Workshop " "	258,507 72		Passenger travel	156,201 45	
Depot " "	43,150 31		Freight on merchandise	136,219 92	
Superintendence " "	19,898 34				1,991,085 36
Office " "	4,459 38		Transportation of the U. S. mail, and other sources.		11,860 26
Lateral railroads	2,897 30				
	856,472 29				
Deduct value of materials on hand, belonging to this account	20,395 01				
		$836,077 28			
To Dumpage.—For amount paid for coal dumped at Richmond		75,827 32			
To Roadway and repair of Wharves.—For amount paid for repairs of road	136,822 15				
For amount paid for repairs of wharves	9,438 64				
	146,260 79				
Deduct value of materials on hand belonging to this account	4,041 69				
		142,219 10			
To Contingent Expenses, office in Philadelpnia. For amount paid for salaries, attorneys' fees, stationery, printing, etc		28,447 05			
To Freight on Missing Coal.—For amount paid for this account		17,835 75			
Profit and Loss.—For balance of this account		902,539 12			
		$2,002,945 62	S. BRADFORD, *Treasurer.* *Philadelphia, December* 1, 1847.		$2,002,945 62

Dr. *Profit and Loss Account for the year ending November 30th, 1847.* *Cr.*

To transportation expenses for year ending November 30th, 1847	$836,077 28	By gross receipts from all sources	$2,002,145 62
To roadway expenses for the year ending November 30th, 1847, including repairs of wharves	142,219 10		
To Dumpage.—Allowance on coal dumped at Richmond	75,827 32		
To Contingent Expenses.—For amount paid for salaries, attorneys' fees, etc., office in Philadelphia	28,447 05		
To freight on missing coal.—For amount returned on coal short of consignment	17,835 75		
To Sundries	4,093 62		
To Interest.—For amount paid during year ending November 30th, 1847, for this account	539,323 11		
To balance carried down	359,122 39		2,002,945 62
Philadelphia, November 30th, 1847.	$2,002,945 62	By balance brought down	$359,122 39

Table, showing the Business on the Philadelphia and Reading Railroad, (each item monthly,) for the year ending November 30th, 1847.

	Dec., 1846.	Jan., 1847.	February.	March.	April.	May.	June.	July.	August.	September.	October	November.	Totals.
Travel	$11,107 49	8,699 37	7,891 72	10,523 19	14,645 13	13,452 19	13,874 51	16,231 63	16,422 64	14,872 72	15,776 54	12,604 32	$156,201 45
Fr't on goods	11,817 52	10,283 47	12,206 43	14,858 90	12,635 48	10,716 38	9,208 09	9,843 61	10,578 03	11,481 12	12,209 02	10,381 87	136,219 92
" coal	119,169 30	82,513 93	86,550 48	79,881 48	135,558 92	137,000 39	154,290 30	162,523 65	188,029 03	186,133 46	181,996 49	185,016 56	1,698,663 99
Tr. U.S. mail	783 34	783 33	783 33	783 34	783 34	783 33	783 34	783 34	783 34	783 33	783 33	783 33	9,400 00
Miscel. rec'ts	11 50	336 25	163 68	173 44	200 67	186 40	187 63	142 25	147 68	223 05	299 83	387 68	2,460 26
Monthly totals	142,889 15	102,616 35	107,595 84	106,220 35	163,823 54	162,138 69	178,343 87	189,524 48	215,960 70	213,493 68	211,165 21	209,173 76	2,002,945 62
Coal transp	84,165	65,573	68,272	77,794	117,742	123,680	136,946	133,949	150,061	142,727	136,200	123,571	1,360,680

Northern, (N. H.) Railroad.

The future prosperity of this great thoroughfare, says the Congregational Journal, is indicated by what it is already doing, when it has hardly *begun* to do. The freight train one day last week consisted of *eighty five cars* when it reached Concord. Three of the cars were loaded with a giant pine from the town of Andover, thirty miles above us, ninety feet in length and three in diameter, and valued at $200. Instead of the solitary and dull life it has long led among the "rugged mountains" of Andover, erected on some princely merchant ship, and proud to exchange its verdure for the stars and stripes which will float on the breeze, and be unfurled from its head, it will now go abroad to see the world. Twenty cars were freighted with logs; six with hoop poles; wood, brick, bark, boards, timbers, soapstone from the inexhaustible, and heretofore almost useless quarries in Oxford, loaded some; butter, cheese, pork, beef, poultry, and mutton, from the excellent farms on the Connecticut, filled others; while cattle, sheep, and horses "filled the measure" of the rest. The weight of the whole cars was estimated at not less than *three hundred and forty tons!* Without the railroad a great part of this freight would have been nearly worthless.

Better evidence of the *value* of railroads to an agricultural country, need not be desired than this—and it will have its just influence upon reflecting and intelligent minds, wherever it can be demonstrated. [Ed. R. R. J.]

Lexington and Frankfort (Ky.) Railroad.

The commonwealth, says the voters of the city of Lexington, have, by a vote of 424 to 24, instructed the city council to take $100,000 of the stock of this road. The vote was much larger in favor of the subscription than was anticipated, and indicates a state of feeling which authorizes the belief that the road will certainly be made.

The trustees of the town of Frankfort have fixed on Thursday next for taking the sense of the people of this place on the propriety of a subscription, by the corporation, to said road. Our citizens cannot be too keenly alive to the importance of this work, and while we should be careful that we do not involve ourselves in debt by needless or extravagant expenditures for public works, we should be equally careful to permit no occasion to pass, where, by a timely and judicious expenditure of our surplus, we may increase the business of the town, facilitate intercourse with our neighbors, and enhance the value of our town property. That the reconstruction of the railroad to Lexington will promote the interest of the people of Frankfort, we do not entertain a doubt; and, for proof of the correctness of our opinion, it is only necessary to look to the past and see what the *present* road has done for us.

The amount to be subscribed by the corporation of Frankfort, if the voters declare in favor of a subscription, is very properly left to the discretion of the board of trustees. They are prudent and safe men—they are men selected for their integrity and devotion to the best interests of the town, and they are, moreover, thoroughly acquainted with our present financial condition—they will know how much we are able to subscribe, and will act accordingly.

Steam Carriage.

Extract from a letter dated London, January 14, '48.

"Mr. Adams' steam carriage, carrying the engine, passengers, (30, or even 40,) luggage, as well as fuel and water, all upon the same wheels, will be economical and exceedingly well adapted for the new country of ———. We are making drawings for Italy, Holland, and this country, for engines for 40 passengers. They will be of great importance for the country between Cairo and Suez, Chagres and Panama, and between Vera Cruz and Mexico, where light rails ought to be laid down for the reception of this light carriage, which we estimate, will go 60 miles per hour with 40 passengers, luggage, fuel, water, etc., and will not exceed 5 tons in weight. Recollect, this steam carriage is intended to carry, and not draw. That made for the Eastern Counties' railway weighs only 22 cwt. with 9 passengers, etc., and went to Cambridge at the rate of 47 miles per hour on the experimental trip."

Mr. Adams *may possibly* succeed—Mr. Hancock did not, though he spent a good deal of money. —[Ed. R. R. J.]

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.
SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

July 31—1y ROBERT GRACIE.
New York.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER PURPOSES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER. 17 Burling Slip.
1y10 New York.

IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

GEO. W. TOWNS, *Governor.*
WM. L. MITCHELL, *Chief Engineer.*
Atlanta, Ga., January 24, 1848. [7t6]

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

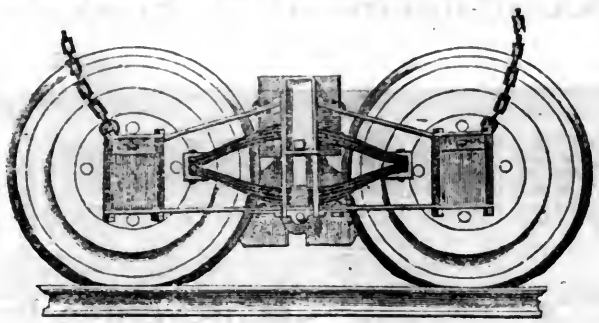
SAM'L KIMBER & CO.,
Willow Street Wharf,
1tu Philadelphia, Pa.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

RAY'S EQUALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power. 1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.— for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	-	50	15-16	20
13	3½	8	3	8¼	16	-	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2¾	5	2	6¼	9	4	13½	1-2,	7½
16	2¼	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

RAILROAD SCALES.---THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
Philadelphia, Pa.
jy25

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

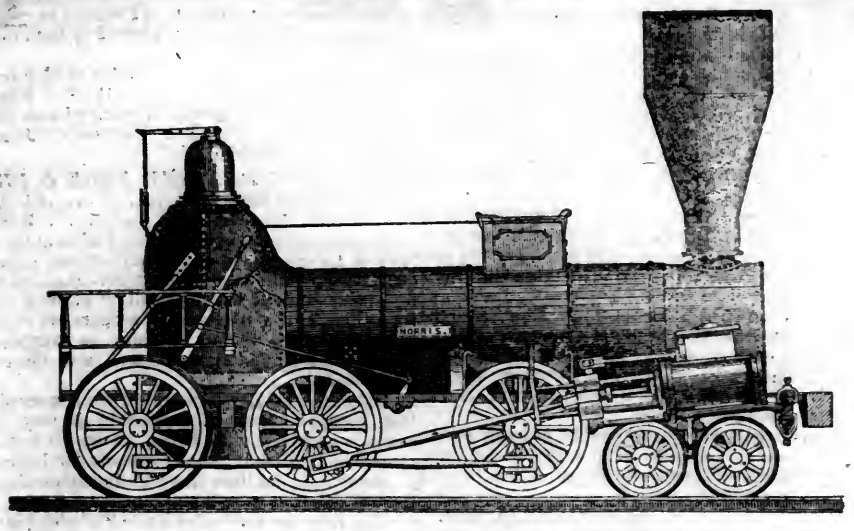
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J
25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES. Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.

ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent*.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

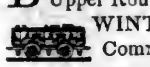
CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington. Philadelphia Co., March 12, 1848. 11tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.



WINTER ARRANGEMENT, Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Super't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

15tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty ponnds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use,

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND After Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Bratleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and ½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

5t W. RAYMOND LEE, *Sup't.*

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus.... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

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CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

t25 JOHN KING, Jr, *Agent.*

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn..

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves.... Albany....	7½ A.M..	2 P.M..	7 P.M.
Pass..... Utica.....	1 P.M..	7½ P.M..	1½ A.M.
Pass..... Syracuse...	4½ P.M.	11 P.M..	5 A.M.
Pass..... Auburn....	6½ P.M..	1 A.M..	7 A.M.
Pass..... Rochester.	12½ M.N..	7 A.M..	1 P.M.
Arrives at. Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.	1st train	2d train.	3d train.
Leaves.... Buffalo....	7½ A.M..	2 P.M..	7 P.M.
Pass..... Rochester.	12½ M....	7 P.M.	12 M.N.
Pass..... Auburn....	6½ P.M..	1 A.M..	6 A.M.
Pass..... Syracuse...	8½ P.M..	3½ A.M..	8 A.M.
Pass..... Utica.....	12 M.N..	7 A.M.	11½ A.M.
Arrives at. Albany....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, Jr.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

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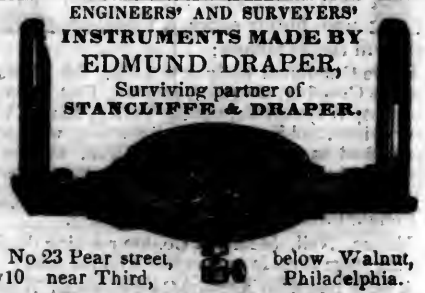
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This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 17] SATURDAY, APRIL 22, 1848. [WHOLE No. 618, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, April 22, 1848.

Vermont Central Railroad.

We learn from the Woodstock Herald that the Vermont Central railroad will be ready for the cars, and will be placed in operation, as far as Bethel, early in May; and it is confidently expected that the cars will reach Gov. Paine's noble depot in Northfield, by the 4th of July.

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

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Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

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Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.

April 22, 1848. 1y*17

PENNSYLVANIA RAILROAD COMPANY.

Notice to Contractors. Proposals will be received until Wednesday, the 17th day of May, at 10 o'clock A.M. at the Borough of Huntingdon, for the Grading and Masonry upon about 36 miles of the Pennsylvania Railroad, between Lewistown and Huntingdon, and also for the heavy work along the Little Juniata.

Plans and specifications of the work can be seen at the above named place for five days previous to the time appointed for receiving the bids.

Any further information can be had upon application to Wm. B. Foster, Jr., Esq., Associate Engineer, at Lewistown. S. V. MERRICK, Pres't.

April 20, 1848. 4t17

Land Damages.

The Railway *Times* gives the following summary of the results of seven appeals to the verdicts of juries in Lincolnshire. The total amount claimed by the seven land owners was £27,290, the sum offered by the Great Northern was £12,076, and the amount awarded by the verdict of the juries was £11,850—being £226 less than the sums offerred by the company, and not amounting to 45 per cent. upon the sums claimed.

Nashville and Chattanooga Railroad.

We learn with much pleasure that the surveys for this road are to be commenced immediately, and prosecuted with spirit. Mr. C. F. M. Garnett has been appointed chief engineer, and is to be assisted by Mr. J. H. Grant, and others, from the railroads in Georgia, who will push on the work, we trust, to an early completion.

Michigan Southern Railroad.

We are pleased to learn that this road is to be extended. We learn from Mr. J. R. Grout, that he has completed the suevey *fifty* miles beyond Hilsdale, its present terminus, and that it will be put under contract as soon as it can be prepared. We shall look with interest for the commencement of work upon this extension.

The Gauges.

We are informed, says Herapath, that, from an investigation which has recently been made by some of the military authorities, in regard to the relative strength of railways on different gauges, it appears that out of 3,400 miles of railways now opened, 300 miles only are upon the broad, or exceptional gauge of seven feet, or one-eleventh of the whole length of railways opened; while the remaining 3,110 miles, being ten-elevenths of the whole are on the national gauge of 4 feet 8½ inches.

Riding in Cars.

A gentleman lately suggested, that it was much more healthful to take the forward part of the car, when there is a fire in it, and many breaths, as, by the current created by the motion of the car, all the carbonic acid is speedily conveyed to the back end or the car. The Scientific American thinks there is considerable in the suggestion, as any one will perceive, who will take the trouble to pass from one end of a heated car to the other. There is a manifest difference in the atmosphere.

Central Railroad.

The *Savannah Georgian* contains the following comparative statistics of the earnings of this road for four months, beginning with the 1st of December, and ending with the 31st of March:

1847, December	$37,415 70
1848, January	52,295 94
" February	57,799 71
" March	51,435 07
	198,946 42
Number of bales of cotton in the 4 mos..	79,079

For same period last year:

1846, December	$53,824 18
1847, January	48,596 51
" February	44,601 59
" March	35,275 83
	182,298 11
Number of bales of cotton in the 4 mos..	65,542

Charleston Railroad.

The *Hamburg Republican* contains the following comparative statement of the produce transported over this road during the month of March, 1847 and 1848:

	1848.	1847.
Bales cotton	13,229	6,695
Bushels grain	8,290	68,585
Barrels flour	1,366	246
Bales domestics	240	248
Barrels and boxes eggs	75	000
Bags feathers	151	000
Bundles paper	73	000
Bundles leather	18	000
Head beef cattle	38	000
Bloom iron, lbs	12,000	000
Brick for building	24,000	000

Saratoga and Whitehall Road.

A correspondent of the Express says that the laying of the iron rail on this road was commenced on Monday, April 10th, and the directors have made contracts for four locomotives, to be delivered June 1—15, July 1—15, respectively.

Anthracite Furnaces.

The average yield of the anthracite furnaces which use the rich ore of New Jersey, is as follows:

Stack	10 feet bosh	93 tons per week,	
"	12 "	126	"
"	18 "	150	"

From this it would seem that a furnace of twelve feet bosh yields in proportion to its size fifteen tons more per week than one of ten feet bosh; while the furnace of eighteen feet by the same rule, yields seventeen tons per week less than the ten feet. If the quantity of fuel and attention is expensive in the same proportion as the increase of the size of the furnace, it would appear that a stack of about fifteen feet bosh would be the most profitable. We should be pleased to receive communications upon this subject, and any other relating to the iron and coal trade of Pennsylvania.

Androscoggin and Kennebec Railroad.

The prospects of this enterprise, in connection with the Atlantic and St. Lawrence railroad are very promising. We are informed that a committee of the directors, Messrs. Taylor, Ware and Goodenow, have been negotiating a loan of two hundred thousand dollars, for the purchase of rails to lay the superstructure of the road from the junction, at Danville, to Winthrop. The portion assigned to Portland was one-half of the sum. We learn that one hundred and fourteen thousand dollars have already been taken there, and the balance could be obtained if desired; but it has been apportioned to other places which have agreed to take it, and is no longer in the market. One condition of the l an is, that the sum is to be invested in rails for the road, to be laid down by the company for the uses of the road, but to remain the property of the subscribers to the loan, until principal and interest are refunded. This insures the construction of the road, and the putting it in opperation as far as Winthrop within one year from the present time.

New Albany and Salem Railroad.

The New Albany (Indiana) Bulletin, of 4th inst., says: "We have the pleasure of communicating to our readers the gratifying intelligence that there no longer exists any doubt as to the immediate commencement and speedy completion of the railroad between this city and Salem. We learn from Jas. Brooks, Esq., the president, who has just returned from Cincinnati, that the whole work has been put under contract, and that it is to be finished in twenty months from the present time. Messrs. Barney, Hanks & Co., of Cincinnati, have undertaken its construction, except the laying of iron rails; and they are to have it completed in the time specified above. We learn that the arrangement is a most favorable one for the company. The contractors have taken our city bonds, and also taken stock to the amount of one-fifth of their charges for construction. The work will be immediately commenced, and will progress with the utmost energy.

"We feel disposed to congratulate the people of New Albany and Salem, upon the accomplishment of so desirable an object. Too much praise cannot be awarded to the indefatigable president, Mr. Brooks, for the interest he has taken, from first to last, in this great enterprise. He has effected much—his constant care and attention has been so directed from its first conception, as to have thus resulted in the permanent and certain prospect of the construction of a great work which must inevitably result in the building up, at New Albany, one of the first commercial and manufacturing cities in the valley of the Mississippi."

Baltimore and its Railroads.

A ramble through, and about the outskirts of, this enterprising and beautiful city, the past week, gives us a better idea of its advantages, and rapid growth, than we have heretofore entertained. To justly appreciate its beautiful position, and rapid growth, and increasing business, it is necessary to spend days in rambling through its streets—not unfrequently obstructed by boxes and bales of goods, turned out really to be sent to the railroad depots, where, on their arrival, there is sometimes great difficulty in getting near enough to unload, for the crowd of carts and drays—and also through the suburbs of the city, where, in almost every direction, will be found numerous new streets laid out and paved, and new buildings in course of erection.

The undulating surface of the ground, and the apparent attention given to the cleanliness of the streets, together with the good taste displayed in the buildings, render Baltimore a desirable residence; and her natural advantages as a seaport, together with her railroads—now sure to be extended, so as to reach the Ohio river, one at Wheeling, and the other, by means of the Pennsylvania Central road, at Pittsburg—will surely make Baltimore, at no distant day, a place of immense business and wealth.

Had Baltimore delayed the commencement of her railroads a few years—as did Boston—until the subject was better understood—until *others* had made the necessary experiments—until the subject of locomotion had been fairly tried—it is probable that, with the same outlay already incurred, her noble works would now be much nearer completion than they are. Yet, great as have been her losses from being a *pioneer* in the cause, and discouraging as have been the delays in the extension of her great work, she may now look with confidence to its early resumption; its steady and rapid progress until it reaches the Ohio; and its vivifying influences upon her permanent prosperity.

A resident of New York, and even of Philadelphia, can now hardly appreciate the advantages of Baltimore as a place of business; but the time *will* come when *Baltimore* will be better known, and more justly appreciated, than at present.

We cannot, however, close this brief notice of Baltimore, without giving utterance to the opinion, that her *councils*, and of course her citizens, are not liberal—nor even *just*—in their requirements of the railroad companies to use *horse* power to so great an extent as they do. The additional expense incurred by use of horse power cannot be less than forty to fifty thousand dollars a year to the *three* railroad companies in Baltimore. This might be tolerated, if any *considerable* good was thereby secured to the citizens—which we do not believe—and therefore we would urge upon the councils the adoption of measures which will allow the use—under proper restrictions—of locomotive power, as far as it may be safely done.

We perceive that the *Baltimore and Ohio* company have commenced work upon their branch road for the purpose of delivering coal, and heavy freights, on shipboard, without hauling their cars through the city by horse power. This branch diverges from the main road, about a mile south of the Mt. Clare, or outer, depot: and will, we presume, be carried up on a grade which will enable them to discharge coal in the cheapest manner.

It is understood that portions of the work beyond Cumberland, or in extension, will be put under contract at an early period— and we trust it will be so—and that then there will be no further interruption to the work until it is completed.

Railroad Matters.

There were transported over the Philadelphia and Reading railroad, during March last, 188,898 tons of coal—being the largest amount ever transported in the same time since the opening of that road; and as compared with the same month of 1847, shows an increase of 111,104 tons—the total for that month being but 77,794 tons. The largest amount of coal carried in any one month last year, was 150,061 tons, brought down during the month of August.

A large and highly respectable meeting of the citizens of Charleston, with the mayor in the chair, resolved unanimously in favor of pledging the credit of that city to the amount of five hundred thousand dollars, to aid in the construction of the road from Chattanooga to Nashville. This subscription to the stock of the company, it is said, will ensure the completion of the work.

The Coosa River Journal informs us that the branch road from Kingston to Rome will be opened to a point within about seven miles of Rome by the 1st of June, and the entire work will be finished in the course of the coming summer.

The Milledgeville Recorder mentions the fact that at a recent meeting of the board of directors of the Milledgeville and Gordon railroad company, it was unanimously determined to put the road under contract, at an early day. The prospect is that it will be commenced in about a month.

It has been calculated that Massachusetts had expended, at the end of 1847, very nearly forty millions of dollars in the construction of railroads in her borders. These are not yet all finished, but we are informed that three-fifths of them paid in eight per cent. dividend last year.

The election of a new board of directors for the New York and Harlem railroad company takes place in a few weeks, and as material changes are said to be contemplated, it becomes necessary for the party favoring such changes to hold a majority of the stock. This accounts, says the New York Pathfinder, for the increased activity of that stock, and the large investments that have been made by some few individuals.

The earnings of the Long Island railroad for the month of March, show a gain of 15 per cent. over the same month of last year, and although the freight business is smaller, much more has been done in the passenger travel.

The receipts of the New York and Erie road for March were $23,160—being an increase of $3,034 over those of the same month of last year.

The Chicago Journal says that the contracts for the grading and bridging of the first 39 miles of the Chicago and Galena Union railroad are already made, and adds, "we should not be greatly surprised if we found ourselves riding out ten or fifteen miles towards Galena on this track about the 4th of next July."

The general railroad bill which was passed by the legislature of New York, authorizes the formation of companies, and the construction of railroads in any portion of the State where land can be purchased for the purpose. The land to be valued by referees, and in all cases those referees to be appointed by the town or city authorities though which the road may pass.

The Albany and Cohees railroad bill has been passed, and the company have obtained power to continue their road as far as Waterford.

A railroad is to be constructed between the towns of Lawrence and Manchester, in New Hampshire.

The Massachusetts legislature have granted a charter for a railroad between Salem and Lowell.

MASSACHUSETTS ANNUAL RAILROAD REPORTS.

Return of the Boston and Lowell Railroad under the Act of April 16th, 1846.

Capital stock	$1,800,000 00	
Increase of capital stock since last report		
Capital paid in per last report	1,800,000 00	
Capital paid in since last report		
Total amount of capital stock paid in		1,800,000 00
Funded debt per last report		
Funded debt paid since last report		
Funded debt, increase of, since last report		
Total present amount of funded debt		
Floating debt, per last report, [including unpaid dividends]	100,750 00	
Floating debt paid since last report		
Floating debt, increase of, since last report	40 00	
Total present amount of floating debt		100,790 00
Total present amount of funded and floating debt		
Average rate of interest per annum on do	5½ per cent.	

COST OF ROAD AND EQUIPMENT.

For graduation and masonry, per last report	557,707 82	
For graduation and masonry paid during the year		
Total amount expended for graduation and masonry		557,707 82
For bridges, per last report	95,428 79	
For bridges, paid during the past year		
Total amount expended for bridges		95,428 79
For superstructure including iron, per last report	683,619 70	
For superstructure, including iron, paid during the past year		
Total amount expended for superstructure, including iron		683,619 70
For stations, buildings and fixtures, as per last report	307,591 46	
For stations, buildings and fixtures, paid during the past year	16,214 86	
Total amount expended for stations, buildings and fixtures		323,809 32
For land, land damages and fences, per last report	84,083 79	
For land, land damages and fences, paid during the past year	48 83	
Total amount expended for land, land damages and fences		84,132 62
For locomotives, per last report	62,403 68	
For locomotives, paid during the past year		
Total amount expended for locomotives		62,403 68
For passenger and baggage cars, per last report	23,663 13	
For passenger and baggage cars, paid during the year		
Total amount expended for passenger and baggage cars		23,663 13
For merchandize cars, per last report	41,171 62	
For merchandize cars paid during the past year		
Total amount expended for merchandize cars		41,171 62
For engineering and other expenses, per last report	84,745 01	
For engineering, and other expenses, paid during the past year	37 50	
Total amount expended for engineering and other expenses		84,782 51
Total cost of road and equipment		1,956,719 10

CHARACTERISTICS OF ROAD.

Length of road	25¼ miles and 59 71 feet.
Length of single track	None.
Length of double track	25¼ miles and 59·71 feet.
Length of branches owned by the company, stating whether they have a single or double track	1¼ miles and 585·33 feet. Single track.
Weight of rail per yard in main road	1¼ miles, 45 lbs. per yd. 20¼ " 56 " 3¼ " 63 "
Weight of rail per yard in branch roads	56 lbs. per yard.
Maximum grade, with its length in main road, [except about 1500 feet, of 30 feet per mile grade, rising from the depot in Lowell]	10 feet per mile for 6·28 [miles.
Maximum grade, with its length in branch roads	54 ft. per mile for 5000 ft.
Total rise and fall in main road	189·93 feet.
Total rise and fall in branch roads	73·54 feet.
Shortest radius of curvature, with length of curve in main road, [except about 900 feet of 1200 radius, at the depot in Lowell]	2800 ft. sadius, 1691¼ feet [long.
Shortest radius of curvature, with length of curve in branch roads, [except two short curves of 500 and 625 feet radius, at the Woburn depot]	1975 ft. radius, 662 ft. long.
Total degrees of curvature in main road	665 deg. 1 min. 42 sec.
Total degrees of curvature in branch roads	107 deg 40 min.
Total length of straight line in main road	184¼ miles, and 824 feet.
Total length of straight line in branches	1¼ miles and 491 feet.
Aggregate length of truss bridges	54 feet.
Whole length of road unfinished on both sides	None.

DOINGS DURING THE YEAR.

Miles run by passenger trains	164,705	
Miles run by freight trains	70,749	
Miles run by other trains	15,092	
Total miles run		250,546
Number of passengers carried in the cars	484,683	
Number of passengers carried one mile	9,523,436	
Number of tons of merchandise carried in the cars	281,441	
Number of tons of merchandise carried one mile	7,117,656	
Number of passengers carried one mile, to and from other roads	2,729,273	
Number of tons carried one mile to and from other roads	3,903,402	
Average rate of speed adopted for passenger trains, including stops	22 1 miles per hour.	
Average rate of speed adopted for freight trains, including stops	12 miles per hour.	
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile	7,609,371	
Estimated weight of merchandise trains, including engine and tender, but not including freight, hauled one mile	7,481,707	

EXPENDITURES FOR WORKING THE ROAD.

For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron	$25,113 90	
For repairs of truss bridges		
For renewals of iron, including laying down	21,959 74	
For wages of switchmen, gate keepers and flagmen	4,454 39	
For removing ice and snow	381 46	
For repairs of fences, gates, houses for flagmen, gate keepers, switchmen, tool houses	2,171 22	
Total for maintenance of way		54,080 71

MOTIVE POWERS.

For repairs of locomotives	16,185 41	
For new locomotives to cover depreciation	4 000 00	
For repairs of passenger cars	8,580 44	
For new passenger cars to cover depreciation	9 568 00	
For repairs of merchandise cars	12,053 79	
For new merchandise cars, to cover depreciation	8,720 00	
For repairs of gravel and other cars	409 58	
Total for maintenance of motive power		59,517 22

MISCELLANEOUS.

For fuel and oil—[fuel $37,697 19, oil $2,769 04]	40,466 23	
For salaries, wages and incidental expenses, chargeable to passenger department	20,025 72	
For salaries, wages and incidental expenses, chargeable to freight department	26,341 91	
For gratuities and damages	4,033 25	
For taxes and insurance	2,002 92	
For ferries		
For repairs of station buildings, aqueducts, fixtures, furniture	26,524 52	
For interest	4,183 17	
For amount paid other companies, in tolls for passengers and freight carried on their roads, specifying each company		
For amount paid other companies as rent for use of their roads, specifying each company		
For salaries of president treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items	16,232 41	
		139 810 73
		253,408 86

INCOME DURING THE YEAR.

For passengers:—

1. On the main road exclusively, including branch owned by company	158,392 59	
2. To and from other roads, specifying what:		
Nashua and Lowell railroad	$17,969 03	
Concord	23,175 69	
Northern	10,074 49	51,219 21
		209,611 80

For freight:—

1. On main road and branches owned by company	147,845 01	
2. To and from other connecting roads:		
Nashua and Lowell railroad	$22,824 54	
Concord	47,446 89	
Northern	16,698 62	86,970 05
		234,815 06
U. S. mails, $3,603 82; rents, $241; miscellaneous, $281 22		4,129 01
Total income		448,555 90
Net earnings after deducting expenses		195,147 24

DIVIDENDS.

Two of 4 per cent. each	144,000 00
Surplus not divided	51,147 24
Surplus last year	151,327 57
Total surplus	202,474 81

ESTIMATED DEPRECIATION BEYOND RENEWALS, VIZ:

Road and bridges	none.
Buildings	
Engines and cars	

To the Honorable, the Legislature of the Commonwealth of Massachusetts:

The directors of the Boston and Lowell corporation do hereby make the seventeenth annual report of their acts and doings, under their act of incorporation, in the within return, according to the form prescribed by the act of the legislature, passed April 16th, 1846.

All which is repectfully submitted.

Wm. Sturgis, George W. Lyman, Joseph Tilden, Eben Chadwick, J. A. Lowell—*Directors.*

Boston, November 30th, 1847.

Two serious accidents to persons have occurred on the Boston and Lowell railroad, in 1845, viz:

On the 9th of April, Zimri Lew, a colored man was killed at Lowell, by being run over, while walking on the track in the night, by a freight train.

On the 8th of July, Charles E Newton, while unloading a car at Middlesex street, in Lowell, was run over by some freight cars, and his leg was so much injured as to require amputation.

Progress of Atmospheric Railways.

In the *Mining Journal* of June 6, 1846, we gave a brief notice of a proposed system of atmospheric propulsion, patented by Mr. Lawes, of Old Kent road, and the city road. It consists of a truly cylindrical tube, closed throughout, divided into sections of about two miles each—one end of each section being closed, the other open; in each of these sections is a truly fitted piston, which we will suppose to be at the bottom, or closed end of the tube; at the open end is a drum, around which a rope is wound by proper gearing; the action of this drum sets in motion another drum the reverse way. The piston having arrived at the open end of the first section, a perfect vacuum is formed in the tube; and the piston being set free, the atmospheric pressure forces it down the tube with great velocity—of course, drawing the train attached; and, as one rope is wound up, the other is unwound. The patentee proposes to have stationary engines, of about ten horse power, at every two mile section of tube, which he considers would be sufficient to raise the necessary power to drive heavy trains at any required speed, every half hour. He proposes that the lines should be laid down on the natural surface of the ground on the unusual portion of turnpike roads, and working without any interruption to the usual traffic. The diameter of the tube would be about three feet; one foot in the same would drive 20 to 30 feet on the road; consequently 150 to 200 feet of tube, in one or more lengths, would drive a train one mile. The piston moves slowly, whilst the train would run with great velocity. The plan proposed for the formation of a company, is, in the first place, to raise by subscription, sufficient to lay down two miles of railway—and thus truly test its capabilities; these subscribers to have the preference in the choice of shares, with a good bonus, should a company be formed; and the remainder to be submitted to the public. The cost of such a line, including propelling power, with all accessories complete, for driving a heavy train every half hour, is estimated at £2,500 per mile.—*London Mining Journal.*

Central Railroad.

The following preamble and resolutions were adopted at a special meeting of the board of trade association at Pittsburg, on Thursday, the 6th inst.

Whereas, Unparalleled exertions are now making by neighboring States, to divert to other routes the traffic and commerce of the Ohio and its tributaries, which has in so eminent a degree promoted the welfare of this county, and the prosperity of the whole commonwealth:

Whereas, The provisions of the late supplement to the charter of the Pennsylvania railroad company, afford important facilities for a subscription to its stock, by the county of Allegheny, by means of which the people would be in a great measure relieved from the interest on the loan required to meet such subscription, and other advantages would be secured.

Whereas, Satisfactory assurances have been given by the officers of said company, that a subscription of a million of dollars from this county would, in addition to an equal sum to be advanced by the city of Philadelphia, be entirely expended on the western section of the line, and would insure the speedy completion of this great work, by which the construction of a railroad from this place through the State of Ohio, under the liberal charter recently granted by that State, would be rendered absolutely certain.

Therefore be it

Resolved, That in the opinion of this meeting, it is highly desirable that the county of Allegheny should make a liberal subscription to the stock of the Pennsylvania railroad company.

Resolved, That a committee of five members be appointed, whose duty it shall be to confer with the county commissioners, and devise the most efficient means of ascertaining the opinion of the citizens of the county, in relation to such a subscription, and report to a meeting to be held at this place on Thursday next at 7, P. M.

The association appointed Messrs. T. Bakewell, T. J. Bigham, Jesse Carothers, W. J. Totten, and Joseph Pennock, that committee.

Influence of Railroads.

Hon. J. M. Niles, in his late address before the New Haven County Agricultural Society, makes the following judicious remarks in relation to the influence of railroads:

"It has been supposed by many, that the systems of railroads and canals, by bringing the products of the west into competition with those of the Atlantic States, would operate injuriously to the agricultural interests of the latter, and reduce the value of land. But on a full development of that system, the result will be otherwise. Were agriculture and commerce the only great interests of our country, this consequence might have followed. But manufactures, the other great interest, supply local markets for the farmer; and the railroad system is already exerting a powerful influence in establishing manufactures in the interior, at points remote from tide water; and thus creating local markets for those products of the farm which would not justify transportation to our commercial cities on the seaboard. Whilst railroads bring the great staples of the west into competition with those of the Atlantic States, they enable the latter to send to market, at a good profit, a great variety of products, which could not otherwise be done, and which will not bear transporting from the western States. And this system, by its influence in evolving the various resources of the country, and increasing its wealth, exerts a favorable influence on agriculture generally, and more especially on sections contiguous to our commercial towns and manufacturing districts. Whilst it brings the flour and provisions of the west into the market on the seaboard, it enables the farmers in the Atlantic States to avail themselves of the markets, where local ones do not exist, for hay, milk, vegetables, fruit, and various articles, which, were it not for those facilities, would bear transportation a few miles only."

Nashville and Chattanooga Railroad.

The president of the company for constructing the above named road, V. K. Stevenson, Esq., was recently in the city of Charleston, on business connected with the same, and furnished to one of its citizens the following interesting statistics, which which we find in the *Mercury:*

1 That the population of Tennessee in 1800 was 105,602; in 1810, 261,727; in 1820, 422,813; in 1830, 682,904; in 1840, 829,210; and at present it is not less than 1,000,000.

2. The population (in Tennessee) accommodated by the building of this road, and having access to it by rivers, turnpikes, and common roads, in convenient distances, is about 515,600 out of East Tennessee and beyond the influence of the Georgia railroad. In addition to this, there is a population in Kentucky accessible to Nashville by turnpikes and the Cumberland river of 234,730.

3. The present marketable produce of the section of country embracing this population, may be stated as follows:—50,000 bales of cotton, 700,000 sacks of corn, 30,000 hogsheads of tobacco, 509,000 head of pork hogs for packing, driving to market, and for bacon, 31,000 beef cattle, 46,000 horses and mules, 22,000 sheep, 600 tons of hemp, 108,000 dozen poultry, 2,100 barrels eggs, 1,020,000 pounds feathers, 260,000 pounds beeswax, 128,000 pounds ginseng, 1,442,000 pounds wool, 22,600 bushels flaxseed, 29,000 bushels dried fruit and nuts, 17,120 bushels peas and beans, 23,000 gallons apple and peach brandy, 21,000 barrels whiskey, 162,000 pounds furs and peltry, 40,000 barrels flour. There is manufactured, mostly for sale, in Middle Tennessee, of iron, negro cotton and woolen goods, socks, saddlery, machines, cotton gins, etc, $4,035,000 worth annually.

4. Twenty-one graded Macadamized roads, diverging from Nashville and penetrating the country in all directions, and the Cumberland river, with its tributaries, giving 800 miles of steamboat navigation, are the now existing

channels for these communications, and accommodate the present trade of Nashville.

5. The Cumberland river and its tributaries throughout their extent will be immediately tributary to this road at its western terminus at Nashville. The rivers in the Mississippi valley, above the mouth of the Ohio, exclusive of the Tennessee and Cumberland, have 12,600 miles of steamboat navigation, all of which must, to a great extent, be tributary to this road, for reasons given in answer to your tenth inquiry.

6. The Cumberland river extends into Kentucky, and is navigated by steamboats to Whitley county. This navigation passes through and drains the counties of Pulaski, Wayne, Clinton, Cumberland, Russell, Monroe, Trigg, Caldwell, and Livingston, in Kentucky, and in Middle Tennessee it commands the trade of five-sixths of the country described in answer to second question.

There are thirty-nine steamboats engaged in the trade of the river. One-third to New Orleans, carrying from 300 to 1100 tons. Eight or ten boats run in the trade above Nashville during winter and spring, discharging their cargoes at Nashville; and, being of light draft, enter the trade, in the lower Cumberland, in summer and fall. The other boats make up a semi-weekly line of packets to Cincinnati; two semi-weekly lines to Smithland, at the mouth of the Cumberland; weekly lines to St. Louis and to New Orleans; and an irregular, but constant communication with Wheeling and Pittsburg.

The writer of the above furnishes many facts and arguments which go to show that the cities of Savannah, Augusta, and Charleston, can successfully compete with New Orleans for the trade of the valleys of the Missouri, Upper Mississippi, and Ohio, provided a railway is made from Chattanooga to Nashville. That such a result is attainable, we have frequently had occasion to express our firm belief. The subject is one of vast and quite inestimable importance to the Atlantic States of Georgia and S. Carolina. Speaking of the territory to become tributary at once to three States, on the opening of the road, Mr. Stevenson truly remarks:

Most of the produce of the Mississippi Valley reaches New Orleans after the 1st of June, and is much injured from the heat and dampness in the hold of a steamboat. At least one-fourth of the tobacco that left home in good order, and of good quality, has, before arriving at New Orleans, undergone what is called a sweat, and not drying from it, spoils, is crossed, that is, condemned, and sells for one-quarter its value in a sound state. The corn, wheat, and rye, are all more or less swelled and softened from damp and heat. Flour, corn meal, bacon, and pork, all undergo great damage, so that the buyer at New Orleans refuses to give a price at all to compare with the value of the same produce on the Atlantic. Ask him why he offers no more, and he will tell you that the voyage to New Orleans has already injured your produce, and its exposure on the New Orleans wharf, in their humid and hot atmosphere, has heated it much, and not dried it, so that it is in the worst possible condition for shipment abroad; and that half of it would spoil on its long voyage through the gulf and round the Florida point to Europe, so that he will only buy it at the price of damaged produce.

The intelligent owner knows this to be true, and as the market is always fullest at this season, and the home demand not equal to half the supply, the holder thinks it best to take any price, as his produce is under heavy expenses, and deteriorating each day from the effect of climate, so that a short time would bring the quality to a point where the cost of storage, etc., would leave him in debt for its transportation to New Orleans. Such has often been the case, to our own knowledge. This state of the New Orleans market is most oppressive on the northwest valley of the Upper Mississippi and Missouri, with near 10,000 miles of navigation, which does not open usually before the middle of May or first of June.

This country is in its infancy, and yet it requires between three and four hundred steamboats, varying from 80 to 1200 tons each, to carry its products to market; and its produce might be delivered much cheaper and quicker at Nashville than New Orleans. Cheaper, because the small vessels that bring it down the shallow streams to St. Louis cannot afford to go with their light cargo to New Orleans, 1200 miles, and now tranship at St. Louis; but if this railway was finished, they would be the proper class to go the short voyage of 450 miles to Nashville, and there tranship, thus saving 750 miles of travel, and including detention from transhipment at St. Louis, at least six days time, and much insurance and freight.

IMPROVEMENT IN THE MANUFACTURE OF IRON.

The attention of men of science has of late been much devoted to improvements in the manufacture of iron, both as regards economy in the smelting department, and also in producing the finished material at the least possible cost. Among the improvements which have lately taken place, that of Mr. Low's will most decidedly rank as one of the first in importance. whether we consider it as simplifying the varied processes of iron manufacture, or what is of still more importance, producing a superior commodity at a very reduced price. By Mr. Low's process, pig iron can be puddled and made into very superior finished iron without the process of refining, with equal facility, and the loss in making a ton of finished bars from pig iron will be less than one half that made in the ordinary way. Mr. Low's process is a simple one, and consists in giving the raw material in its process of manufacture a much less degree of carbonisation or oxydation, the two grand objects requisite for solidity of structure and hardness; for this purpose he uses black oxide of manganese, plumbago or graphite, charcoal, and nitrate of either potash, soda or lime, usually employing saltpetre. These ingredients are mixed together in the proportions specified in the patent; and to every charge of ore in the blast furnace likely to produce 480 lbs. weight of metal, he uses 66 lbs. of this mixture. In the puddling furnace he applies it to the metal in a fused state, by throwing upon the surface two or three pounds at a time, and gradually incorporating the requisite quantity. His patent extends to the application of this mixture to the manufacture of cast steel from malleable iron, adding two or three pounds to every 30 lbs. of steel when in the melting pots.—*Liverpool Times.*

Reading Railroad Report for 1847.

Continued from page 249.

REPORT OF ENGINEER AND SUPERINTENDENT.

JOHN TUCKER, Esq, *President of the Philadelphia and Reading Railroad Company:*

SIR:—I respectfully submit the following report of the transportation, roadway, and construction departments of the road, for the year ending November 30th, 1847.

TRANSPORTATION DEPARTMENT.

Statement A contains the business and receipts of the road for the year.

Statements B and C exhibit the gross and net expenses of the department, with the apportionment of those expenses, in detail, under their various heads.

Statement D contains a table of all the running machinery of the road. Four first class engines have been added during the year, three of which were built in the company's shops. Four first class engines, in addition, built by Ross Winans, of Baltimore, have been in use upon the road on trial, for burning anthracite coal. The car force of the road has been increased by five eight wheeled house cars: one eight wheeled platform car; twenty-seven four wheeled open cars: two eight wheeled passenger cars, and one four wheeled express car. Two hundred and seventy-six wooden coal cars have been altered and enlarged, from a capacity of $3\frac{1}{2}$ tons to that of $4\frac{65}{100}$ tons. Two small express engines have been built during the year, and work commenced for three new passenger engines, and another locomotive boiler for burning anthracite coal. Two other engines, one of the first and another of the second class, are nearly completed.

The name, weight, maker, present condition, and duty, of every locomotive owned and used by the company, is exhibited in statement E, and their whole cost of repairs, miles ran, and tonnage hauled, in statement F. Statement G contains the expenses of repairing all coal, merchandise, and passenger cars.

The cost of hauling coal for the year, in detail, will be found in statement H.

Statement K and L show the cost of hauling passengers and merchandise for the year.

Statement M contains the cost of hauling coal, merchandise, and passengers, over the State road, and of horse power in the city of Philadelphia, during the past year.

The amount of coal received from the various lateral roads in the Schuylkill coal region, and the points where consigned on the Reading road, are comprised in statement N. It will be observed, that the supply of the Schuylkill Valley and of the city of Philadelphia alone, is thirty per cent. of the whole amount transported.

The average cost of fuel, materials, and labor, has exceeded that of last year about ten per cent.

The locomotive engine "Novelty," alluded to in my last annual report, as then building on a new principle, for the purpose of burning anthracite coal, has been completed and in operation since June of the present year. Her performance has been very satisfactory, fully equalling my expectations, and showing no injurious results from the use of coal as her exclusive fuel, after five months trial, and a duty of 9,357 miles, ran with coal trains. With such results, and from her great economy in fuel, I feel confident that the main difficulties in using anthracite coal in locomotives have been overcome; and that with farther improvements which experience has suggested, now in progress, this road will shortly be able to use, as its exclusive fuel, the coal of its own coal region.

ROADWAY DEPARTMENT.

Comprising total expenses of repairs and renewals of superstructure, bridges, depots, and all buildings for the year.

Repairs of Track and Bridges.

Wages of laborers	$53,890 58
Wages of carpenters and mechanics	11,039 79
Bar iron and steel, tools, etc	2,177 96
Timber and sills	16,613 16
Castings	4,613 84
Watchmen in tunnels	916 00
Clearing snow	991 39
Sundries, oil, rents, broken stone, masonry, etc	1,438 69
	91,711 41
To which is added what would have been the cost of repairing and strengthening wooden structures, replaced during the year with stone and iron bridges	3,855 60
	95,570 01

Engines and Cars Transporting Materials, Saw mill, and Stationary Machinery.

Wages of engine crews	2,992 82
Fuel and repairs of engines and cars, oil, etc	6,458 87
Saw mill, stationary engines, and other machinery, fuel, wages, etc	2,118 65
	11,470 34

Water Stations, Depots, and Engine Houses.

Wages of workmen	2,892 43
Timber, iron, and materials	496 41
Sundries	47 33
	3,436 17

Superintendence and Office Account.

Salaries of all officers and agents	2,652 53
Stationery and printing	153 60
	2,806 13

Railroad Iron.

One thousand nine hundred and nineteen new bars of railroad iron, weighing 312·2 tons, have been put into the tracks of the road during the year, at an average cost of $77½ per ton, amounting to the sum of $24,117 45.

Of the 1,919 bars removed, 1,169 were of the 60 lb. rail, and 750 of the other patterns, of a total weight of 289·5 tons, (several of the bars removed being of the 45 and 52 lbs. pattern, and replaced with 60 lbs. rail.)

Of these 289·5 tons have been sold	$3,589 08
And used by construction department in turnouts, sidings, etc., 176·2 tons, valued at $50	8,805 00
Leaving on hand 31·5 tons, worth $45 per ton	1,417 50
Deduct	13,811 58
From	24,117 45
Leaves as lost on above 1919 bars	10,305 87

Or less than ¼ of a cent per ton on the tonnage of the year.

Watchmen at Bridges and Depots.

Wages of all watchmen at bridges	8,118 20
" " Pottstown depot and yard	1,073 74
	9,191 91

Aggregate of Roadway Expenses.

Repairs of road beds, tracks, and bridges	95,570 01
Engines, cars, and machinery	11,470 34
Railroad iron	10,305 87
Watchmen at bridges and depots	9,191 91
Water stations, depots, and eng. houses	3,436 17
Superintendence, and office expenses	2,806 13
Net cost	132,780 46
Add for materials on hand over same item last year, timber, sills, and lumber	2,397 19
Railroad iron	1,417 50
Hardware, etc	90 70
Castings	136 30
	4,041 69
Gross expenses of roadway department	136,822 15

The drainage of the road has been particularly attended to during the year, and with very favorable results: the bridges and tracks are in perfect order, having been maintained in the same condition during the passage of the year's business of 1,770,916 tons, without the slightest accident, and at less cost than during the previous year.

The total length of track kept in repair has been 95 miles of double track, and 31 miles of turnouts and sidings; equal to 221 miles of single track.

The net expenses of the transportation and roadway department for the year are as follows:—

Transportation department	$836,077 28
Roadway department	132,780 46
	968,857 74

Equal to 48 per cent. of the receipts of the road.

The total cost of repairing Richmond wharves during the year, including timber for trestling, planking, hardware, iron, and steel, has been 9,438 64

CONSTRUCTION DEPARTMENT.

Bridges.

Fifteen stone bridges, of spans varying from 10 to 35½ feet, have been completed during the past year. Five of these were commenced in 1846, viz: Irish creek, Big dam, Shaeffer's, Pottstown, and Manayunk: and ten stone bridges have been commenced and completed during the present year; at Mount Carbon, Hamburg, Mohrsville, Centre turnpike, Wambach's, Yosts', Geiger's, Phœnixville, Pauling's, and Anderson's Two other stone bridges have been commenced, and the piers and abutments carried up to the springing levels, to be completed next year, at Pickering creek and Quinters.

Six iron bridges, varying from 25 to 40 feet span, all commenced previous to December 1st, 1846, have been erected during the past year; at Canal Tunnel, Auburn, Stoney creek, Mill creek, Ulrich's, and Reading. Another iron bridge also, commenced last year, has been finished during the present year, and is now on hand.

Timber bridges have been built at Phœnixville, Germantown railroad crossing, Manayunk, and Falls. Those at Schuylkill Haven, 4th crossing, Peacock Locks, and Monocacy, have been severally strengthened, and rendered perfectly secure, by the addition of arch pieces; and all the bridges of the line, I am gratified to report, in excellent condition. Since the road has been in operation, 35 wooden bridges have been changed into stone and iron, leaving but 48 wooden bridges yet remaining, which will be in the course of a few years all replaced with stone or iron structures.

Whole amount expended during the year, $86,687 82.

Depots, Workshops, Engine Houses, Water Stations, etc.

Several new buildings have been added during the past year. An iron freight house has been built at Pottsville, another at Port Clinton; the new freight depot at Reading completed, and a new and spacious shop built at the latter depot. Other workshops have also been added at the same station. The carpenter shop at Pottstown, and roof of smith shop completed, a large stable built for the company's horses at Philadelphia, and 49 new tool houses built and placed on each division of the line. The engine houses at Schuylkill Haven, Reading, and Pottstown, have been completed, as also new cistern and water stations at Pottstown, Phœnixville, Port Kennedy, Norristown, and Reading. Wood sheds have been put up at Orwigsburg, and State road station; and coal schutes at Phœnixville and Hamburg.

Total amount $63,468 20.

New Stationary Machinery.

Three of "Kirk's patent steam hammers," with furnaces, stacks, etc., complete, have been erected, and found to secure an important economy in the cost of bar iron and axles, and valuable tools and machinery have been added to the shops at Reading, Pottstown, and Richmond.

Cost of all $27,054 45.

Tracks, Turnouts, and Grading.

Comprising cost of grading and laying down tracks, at points below stated:—

Richmond	999 feet.
Planes	1,137 "
Falls	4,721 "
Conshohocken	1,183 "
Potts	261 "
Valley Forge	87 "
Phœnixville	927 "
Pottstown	500 "
Neversink	450 "
Reading	841 "
Hamburg	100 "
Orwigsburg	657 "
Schuylkill Haven	3,360 "
Mount Carbon	270 "
Total	15,493 "
Also of grading new depot lot at Reading, making a total expenditure of	$20,710 77

Sundries.

Including expenses of patent fuel experiments; all new work at Richmond wharves, new turning platforms, depot tracks, new lines of magnetic telegraph, loading materials for this department, completing vertical wall at Phœnixville, engineering, superintendence and clerk's salaries, stationery, and all expenses of construction department not enumerated, amounting to $25,010 16.

Total Expenditures of Construction Department.

Bridges	86,687 82
Depots, workshops, engine houses, etc...	63,468 20
New stationary machinery	27,054 45
Tracks, turnouts, and grading	20,710 77
Sundries, Richmond wharves, etc	25,010 16
	222,931 40
Add for value of materials on hand, viz: pig iron, timber and sundry machinery for new engines, cars, etc., to be used next year	15,573 90
	238,505 30

The net expenditures of the construction department for the past year have been as above, $222.931 40. In 1846 they were $439,113 82, showing a reduction of $216,182 42.

The expenses of this department for the year 1848 will be considerably less than those for the past year.

I am very respectfully,

Your obedient servant,

G. A. NICOLLS, *Engineer and General Superintend't.*

Reading, Pa., Dec. 1st, 1847.

Statement A.— Business of the Philadelphia and Reading Railroad for the year ending November 30th, 1847.

TONNAGE.

Coal transported, tons of 2,240 lbs	1,360,681
Merchandise, tons of 2,000 lbs	71,718
Materials for use of road, including earth, gravel, timber, rails, sills, cordwood, stone, brick, iron, etc., etc., in tons of 2,000 lbs	165,493
Total tonnage of road for the year, including weight of passengers, in tons of 2,000 lbs	1,770,916
Total amount of coal transported to date, tons of 2,240 lbs	4,054,639
Total tonnage of road to date, tons of 2,000 lbs	5,471,437

PASSENGER TRAVEL.

Total No. of passengers during the year	97,463
" miles travelled by same	4,560,260
Equal to, in through passengers, over the whole length of the road	649,416

RECEIPTS OF ROAD.

From freight on coal	$1,698 663 99
From freight on passengers	136,219 92
From passenger travel	156,201 45
From transportation of U.S. mail, and other sources	11,860 26
	2,002,945 62

Statement B.—Gross Expenses of Transportation Department for year ending November 30th, 1847.

RUNNING ACCOUNT.

Wages of engineers, firemen, conductors, brakemen, oilers, despatchers, time keepers, and turning crews	$126,465 15	
Wood, 90,716¼ cords	225,622 07	
Loading and unloading wood, wharfage, agents, etc	18,899 49	
Cutting wood	33,632 73	
Oil, 40,565 gallons	35,652 34	
Tallow and grease, 49,084 lbs	4,620 55	
Hauling across Schuylkill bridge on State road, and expenses on ditto, in Philadelphia	12,016 30	
Tolls paid State road	28,303 71	
Coal left short of consignment, and used by company	8,561 61	
Renewals of articles on trains, lamps, ropes, etc	5,435 54	
Cotton waste	3,022 16	
Coal fuel for engines	4,389 19	
Delivering coal at Richmond	15,266 80	
Use of telegraph	844 16	
Sundries, goods lost or stolen, etc., etc..	4,827 44	
		527,559 24

WORKSHOP ACCOUNT.

Wages of all machinists, blacksmiths, carpenters, boiler makers, time keepers, and all mechanics and laborers	$160,722 43	
Bar iron steel, tools, and hardware	26,832 63	
Tires and axles	12,386 62	
Pig metal, iron, lumber, hay, etc., for foundry	12,992 17	
Copper, spelter, tin, lead, etc.	15,448 02	
Timber and lumber	8,563 69	
Anthracite coal	9,761 94	
Bituminous coal	6,414 40	
Work done elsewhere	537 20	
All other materials, charcoal, leather, etc., etc	2,337 31	
Work and stuff for patterns.	1,238 03	
Sundries	1,270 28	
		258,507 72

DEPOT ACCOUNT.

Wages of hands	29,495 15	
Wages of watchmen at depots, wharves, & switches.	6,175 99	
Coal for water stations, and pumping water	3,231 61	
Materials and work	2,283 96	
Horse-feed	420 19	
Rents	1,375 00	
Sundries	138 41	
		43,150 31

SUPERINTENDENCE ACCOUNT.

Salaries of all officers, clerks, and ag'ts in department	19,898 34

OFFICE ACCOUNT.

Advertising in, and subscription to papers	189 53	
Stationery and printing	2,144 81	
Fuel, furniture, rent, and all materials	1,566 84	
Attendance and sundries	558 20	
		4,459 38

LATERAL RAILROADS ACCOUNT.

Salaries of agents	1,322 73	
Use of engines & sundries.	1,574 57	
		2,897 30
Total		856,472 29

Statement C.—Net Expenses of Transportation Department of the Philadelphia and Reading Railroad for the year ending November 30th, 1847.

Transportation of 1,360,681 tons of coal from coal region to Richmond, junction with State road and other points, at 45 84-100 cts. per ton.	$623,737 17
Expenses of transportation between junction with State road and company's depot in Philadelphia, including tolls paid State road and city, hauling across Schuylkill bridge, pay of ag'ts, etc	50,373 86
Transportation of 71,718 tons merchandise between Pottsville, Reading, and other points, and junction with State road, at 85 9-10 cts. per ton	61,605 76
Transportation of 49,604 through passengers between Pottsville and junction with State road, at 47 2-10 cents per passenger	23,413 09
Superintendence, including salaries of all officers, clerks, and coal agents at depots	20,876 44
Net expenses of delivering and sorting coal cars on Richmond wharves, between Trenton railroad crossing and river Delaware, a portion of which is chargeable to last year's business	15,266 80
Wages of all watchmen at wharves, depots, and switches	6,797 90
Expenses of delivering coal and freight, and hauling cars for all purposes at Reading depot and turnouts	6,115 71
Office expenses, stationery, newspapers, advertising, etc	5,185 54
Expenses of sorting and hauling coal cars at Phœnixville and other way stations	2,983 05
Expenses of sorting coal cars at Schuylkill Haven for cars used on West Branch road	2,585 50
Work and materials for depots and stations	2,476 19
Rent and expenses of magnetic teleg...	844 16
Salaries of agents, and engine expenses on lateral railroads in coal region	2,897 30
New tools and patterns for shops and engines	6,106 13
Sundry expenses, express engines, etc., etc	4,813 68
Actual net expenses for year	836,077 28

Add for materials on hand November 30th, 1846, viz:

Wood	$11,811 80	
Bar, boiler, and sheet iron steel	4,432 90	
Iron castings	753 74	
Pig metal	3,758 60	
Car gearing, wheels, axles, springs, etc	12,901 38	
Engine gearing	5,997 10	
Engine tires	12 193 85	
Timber and lumber	3,890 83	
Bituminous coal	1,199 00	
Anthracite coal	1,205 00	
Copper, lead, tin, brass, etc..	3,683 16	
Wrought scrap iron for tilt hammer	10,732 34	
Cast scrap iron for foundry.	7,254 44	
Tools, etc	3,875 50	
	83,689 64	
Deduct value of materials on hand Dec. 1st, 1846	63,294 63	
		20,395 01
Total expenses		856,472 29

Statement D.—Number of Engines, Cars, and Running Machinery upon the Philadelphia and Reading Railroad November 30th, 1847.

LOCOMOTIVE ENGINES.

46 first class engines.
22 second " (2 sold since last report)
8 third "
1 second " (out of use at present ("Del.")

77 total.

COAL CARS.

	Weight, Empty.	Capacity.
1 eight wheeled iron coal car.	4·7	11·0
3,019 four " "	2 43	5·0
1,318 four " wooden do.	2·2	4·65
268 four " "	2·05	3·2
4,606* total.	2 34	4·79

CARS FOR FREIGHT AND GENERAL USE.

11 eight wheeled covered house cars.
32 " box cars.
48 " open platform cars.
153 four wheeled covered house cars.
28 " box cars.
230 " open platform cars.

502* total.

PASSENGER CARS.

15 eight wheeled passenger cars.
1 four " "
3 eight " baggage cars.
2 four " "
1 four " express car.

22 total.

In addition to the above, the company own:—
2 small express locomotives, "Ariel" & "Witch."
2 small passenger cars, for use of road.
13 stationary engines, from 4 to 35 horse power, for driving machinery, pumping at water stations, sawing wood, etc.
2 portable wood cutting steam engines, at Reading and Richmond.
7 snow ploughs.
50 horses, chiefly for hauling in Broad street, Philadelphia.

*20 wooden coal cars are altered, and used as freight cars.

Statement E.—Table of Names, Weights, and Present Duty of all Locomotive Engines owned by the Philadelphia and Reading R. R. Co., Nov. 30th, 1847.

Names.	Weight in tons.	Maker.	When put on road.	Miles ran. Year ending Nov. 30.	Miles ran. Total to date.	Present Condition and Duty.
Atlas	27·0	Baldwin, Philadelphia.	April, 1846.	16,218	24,340	At work, Falls Grade.
Hercules	27 0	"	"	18,014	26,066	"
Texas	22·4	"	"	23,549	39,088	At work, in Coal Trade.
Alabama	22·4	"	"	21,113	35,995	"
Kentucky	22·4	"	"	21,907	36,818	"
Indiana	22·4	"	"	19,529	34,665	"
Princeton	22·4	"	May, 1846.	21,148	33,796	"
Montezuma	22·4	"	July, 1846.	20,843	29,699	In shop, under repair.
Amazon	22·4	"	May, 1846.	21,157	32,634	At work, in Coal Trade.
Warrior	22·4	"	"	19,687	32,081	"
Florida	22·4	"	July, 1846.	20,374	28,111	In order, ready for use.
Washington	22·4	"	June, 1846.	20,855	32,608	At work, in Coal Trade.
Empire	22·4	"	May, 1846.	20,555	32,654	"
Pocahontas	22·4	"	June, 1846.	23,103	33,766	In shop, under repair.
Allegheny	22·4	"	"	21,654	31,635	At work, in Coal Trade.
Yorktown	22·4	"	"	21,161	31,393	In shop, under repair.
Rio Grande	22·4	"	July, 1846.	20,302	28,400	At work, in Coal Trade.
United States	18·6	"	July, 1844.	17,382	74,522	"
New England	19·7	"	"	15,429	68,042	"
New York	19·1	"	August, 1844.	17,901	73,151	In order, ready for use.
Ontario	19·1	"	"	19,204	71,824	In shop, under repair.
Virginia	19·1	"	Sept'r, 1844.	20,482	71,473	In order, ready for use.
Hudson	19·5	"	Oct'r, 1844.	14,284	58,524	At work, in Coal Trade.
Niagara	19·6	"	April, 1845.	18,894	58,868	"
Pacific	19·5	"	"	18,260	58,722	"
Independence	19·5	"	May, 1845.	19,486	57,648	"
Oregon	19 5	"	"	18,525	50,308	"
St. Lawrence	15·5	"	June, 1845.	18,620	51,795	"
Constitution	19·5	"	"	14,227	49,018	At work, Richmond wharves.
Champlain	20·1	"	Sept'r, 1845.	15,015	40,974	In shop, under repair.
Seminole	13·1	"	Febr'y, 1840.	21,717	109,371	At work, wood train.
Perkiomen	12·6	"	April, 1842,	16,070	81,917	In order, ready for use.
32 in all.		Made by Baldwin, Philadelphia.				
Chesapeake	20·0	Norris, Philadelphia.	March, 1847.	14,428	14,428	In order, ready for use.
Philadelphia	17·7	"	Oct'r, 1844.	11,062	50,029	At work, lateral roads.
Manatawny	13·8	"	Oct'r, 1842.	25,468	113,239	At work, freight train.
America	13·4	"	"	15,904	84,595	"
4 in all.		Made by Norris, Philadelphia.				
Carolina	28·7	New Castle Company.	April, 1846.	20,060	33,393	At work, in Coal Trade.
Missouri	18·7	"	August, 1846.	19,229	24,827	"
Columbus	18 2	"	April, 1844.	8,423	44,236	At work, lateral roads.
Pottsville	11·0	"	Sept'r, 1842.	5,187	65,756	At work, City Coal Trade.
Tuscarora	11·8	"	Nov'r, 1842.	7,474	62,492	At work, Schuylkill Haven.
Pennsylvania	11·4	"	April, 1843.	7,223	55,546	At work, lateral, roads.
Ontalaunee	12·0	"	July, 1843.	10,182	58,474	At work, Richmond wharves.
7 in all.		New Castle Manufacturing Co.				
Connestoga	11·8	Locks and Canals Co.	May, 1843.	9,969	58 278	In shop, under repair.
Tioga	11·8	"	July, 1843.	14,366	61,913	At work, lateral roads.
Schuylkill	11·8	"	"	9,372	52,911	In shop, under repair.
Shamokin	11·8	"	"	9,783	60,344	At work, lateral roads.
Huron	11·8	"	August, 1843.	10,936	61,177	Altering to a more efficient engine.
Osceola	11·8	"	"	7,317	50,376	At work, Richmond wharves.
Potomac	11·8	"	"	16.169	71,322	At work, wood train.
Erie	11·8	"	"	10,424	59,612	At work, Richmond wharves.
Roanoke	11·8	"	Sept'r, 1843.	8,033	48,507	At work, Schuylkill Haven.
Cherokee	13·9	"	"	9,201	45,618	At work, lateral roads.
10 in all.		Locks and Canals Co., Lowell.				
Wyoming	19·6	Reading Railroad Company.	Febr'y, 1847.	17,948	17,948	At work, in Coal Trade.
Palo Alto	20·8	"	May, 1847.	12,500	12,500	"
Monterey	19 9	"	June, 1847.	9,326	9,326	"
Sanatoga	19·2	Rebuilt by Reading R. R. Co.	"	15,384	73,408	At work, lateral roads.
Mahanoy	20·2	"	May, 1842.	18,614	71,992	At work, in Coal Trade.
Novelty	21·0	Reading Railroad Company.	June, 1847.	9,357	9,357	"
Atlantic	20·1	Rebuilt by Reading R. R. Co.	August, 1844	13,888	44,097	"
Monocacy	16·4	"	March, 1842.	9,462	84,867	At work, Reading coal train.
Reading	16·2	"	Oct'r, 1842.	24,575	70,851	At work, freight train.
Gazelle	11 0	"	March, 1841.	25,592	121,726	At work, passenger train.
Atalanta	10·3	"	April, 1841.	24,523	112,425	"
Antelope	9·3	"	June, 1838.	9,350	97,167	In order, ready for use.
12 in all.		Built & reb. by Reading R.R. Co.				
Gowan & Marx	11·0	Eastwick & Harrison.	Jan'y, 1840.	8,659	79,166	At work, Reading depot.
Lycoming	10·4	Dotterer & Co.	August, 1842	11,304	60,244	At work, wood train.
Engineer	8·8	Braithwaite & Co.	May, 1838.	16,942	94,216	At work, roadway department.
Rocket	8·4	"	"	16,788	109,931	"
Planet	8·4	"	August, 1838.	18,797	103,011	"
Spitfire	8·4	"	June, 1838.	10,933	93,348	At work, extra engine.
Hecla	8·4	"	July, 1840.	10,494	112,000	In shop, under repair.
5 in all.		Made by Braithwaite & Co.				
Delaware	10·1	Ross Winans.	May, 1838.	0	1,586	Out of use at present.
Besides the above 73 engines, the Reading Railroad Company have in use on trial:—						
Baltimore	26·9	Ross Winans.	June, 1847.	8,766	8,766	At work, in Coal trade.
Maryland	27·0	"	Sept'r, 1847.	3,533	3,533	In shop, under repair.
Delaware	27·1	"	"	4,337	4,337	"
Ohio	27·9	"	"	3,956	3,056	At work, in Coal Trade.

In all, 77 locomotive engines on road.

☞ From this statement useful information may be derived, in relation to the comparative performance of locomotives.

Condensed Table, showing Condition and Employment of all the engines owned by the Philadelphia and Reading Railroad Company.

How employed.	1st Class.	2d Class.	3d Class.	Total.
In daily use, in good order, on Reading or lateral roads	35	18	6	59
In workshops, under repair	7	2	1	10
In good order, ready for use	4	1	1	6
Altering to more efficient engines		1		1
Out of use at present, "Delaware."		1		1
Totals	46	23	8	77

Statement F.—Work and Repairs of all Locomotive Engines owned by the Philadelphia and Reading Railroad Company, for year ending Nov. 30, 1847.

MILES RAN.

How employed.	1st class.	2d class	3d class.	Total.
Reading R.R. transportation depart.	734,552	204,337	75,390	1,014,279
Reading railroad construction dep't.		9,297	37,837	47,134
Reading railroad roadway depart.		10,554	16,610	27,164
Total Reading railroad	734,552	224,188	129,837	1,088,577
On lateral railroads in coal region	37,564	54,558	3,573	95,695
Total	772,116	278,746	133,410	1,184,272

Total number of tons hauled one mile, exclusive of engine or tender	306,759,593
Average weight of loaded coal trains down, exclusive of engine or tender	593
Average weight of empty coal trains up, exclusive of engine and tender	194 6
Average weight of passenger trains, exclusive of engine and tender	45·4

All tons of 2,000 pounds.

COST OF REPAIRS OF ENGINES.

Wages of all mechanics	$12,874 68
Materials, iron, steel, brass, etc., etc.	25,231 13
Superintendence, tools, paints, etc., etc.	6,810 36
	74,916 17
Total number of miles ran by all engines owned and used by company, from May, 1838, to November 30, 1847	4,469,339
Total number tons hauled between same dates	947,615,348

Statement G.—Cost of repairs and renewals of Coal, Freight, and Passenger Cars, on the Philadelphia and Reading Railroad for year ending November 30th, 1847.

COAL AND FREIGHT CARS.

Wages of all mechanics	$56,230 10
Iron, steel, brass, and all metals	46,050 06
Timber	6,519 96
Superintendence, tools, paints, oil, etc., etc	10,880 01
Total	119,680 13
No. of gallons of oil used by coal and freight cars during year, including train lamps	29,252
No. lbs. tallow, ditto	45,938

COST OF REPAIRS AND RENEWALS OF PASSENGER CARS

Wages of mechanics	$3,116 90
Iron, steel, timber, etc	2,596 30
Superintendence, tools, paints, varnish, etc	714 15
Total	6,427 35
No. gallons of oil used by passenger cars during the year	723
No. lbs. of tallow	309

Statement H.—Items of Cost, in detail, of Hauling Coal on the Philadelpkia and Reading Railroad for the year ending November 30th, 1847.

Per round trip of 190 miles, from coal region to tide water, and back with empty cars: transporting an average load of 354 tons of coal each train.

Items of Cost.	No.	Description.	Rate.	Amount
Wages of engineer.	2	Days.	2·50	$5 00
" firemen..	2	"	1·50	3 00
" conductor	2	"	1·50	3 00
" brakemen	6	"	1·08	6 48
Wood for fuel	15·83	Cords.	4·10	64 90
Oil for engine and tender, including lamps	4·1	Gallons.	0·75	3 07
Oil and tallow for cars	354	Tons.	1·3	4 60
Repairs of engine & tender	190	Miles.	6·5	12 35
Repairs of coal cars.	354	Tons.	8·1	28 67
Renewals of sundries, ropes, lamps, etc	354	Tons.	·6	2 12
Supplying water	16	M Galls.	·06	96
Assistant engines at Falls grade	354	Tons.	1·8	6 37
Car couplers and greasers, timekeepers, despatchers, & turning crews	354	Tons.	1·6	5 66
Allowance for engines laying over, assistant engines in snow storms, etc., etc	354	Tons.	2·6	9 20
Sundry expenses, wages of men, to take place of regular crews off duty from sickness, etc., premiums to crews, and all contingent expenses	354	Tons.	1·95	6 90
				162 28

Equal to 45·84 cents per ton.

Statement K.—Items of Cost, in detail, of Running Passenger Trains on the Philadelphia and Reading Railroad, for the year ending November 30th, 1847.

PER DAILY TRIP OF 92 MILES.

Items of Cost.	No.	Description.	Rate.	Am't.
Wages of engineer	1	Day.	1 80	$1 80
" fireman	1	"	1 00	1 00
" conductor	1	"	1 55	1 55
" assistant conductors	1	"	1 25	1 25
Wages of brakemen, (during last 6 months	½	"	1 00	50
Wood for fuel	2·8	Cords.	4 10	11 48
Water used	3	M Galls.	06	18
Oil for engine and tender..	1	Gallon.	90	90
Oil for cars	1·1	"	80	88
Repairs of engines	89	Miles.	4 02	3 74
Repairs and refitting cars..				10 12
Hands at depots				2 51
Sundries for train				91
				36 82

Equal to, at 78 through passengers per train, 47·2 cents per passenger.

Statement L.—Items of Cost, in detail, of running Freight Trains on the Philadelphia and Reading Railroad, for the year ending November 30th, 1847.

PER DAILY TRIP OF 92 MILES.

Items of Cost.	No.	Description.	Rate.	Am't.
Wages of engineer	1	Day.	2 50	$2 50
" fireman	1	"	1 30	1 30
" conductor	1	"	1 35	1 35
" brakemen	3	"	1 00	3 00
Wood for fuel	3·8	Cords.	4 10	15 58
Oil for engine and tender.	2	Gallons.	80	1 60
Oil and grease for cars..	61	Tons.	1½	91
Repairs of engine and tender	90	Miles.	5½	4 95
Repairs of cars	61	Tons.	7½	4 57
Depot hands, and other depot expenses				12 65
Water used	4	M Galls.	·06	24
Renewals of sundry articles	61	Tons.	3	1 83
Goods lost, stolen, or damaged, about ½ being for claims previous to present year, not before presented				1 92
				52 40

Equal to, at 61 through tons per train, 85·9 cents per ton.

Statement M.—Cost of hauling over State Road, and of horse power in Broad street, Philadelphia, for year ending November 30th, 1847.

Amount paid State for tolls	$28,303 71
" city corporation for tolls	300 00
Cost of hauling cars across Schuylkill bridge	1,792 50
Wages of brakemen over State road	682 10
" agents in Broad street	1,033 00
Repairs of coal cars passing over State road	1,933 64
Repairs of passenger cars passing over State road	363 29
Repairs of freight cars passing over State road	641 92
Cost of engine hauling cars, and arranging trains at junction with State road.	6,016 30
Cost of horse power, hauling cars in Broad street, Philadelphia	8,795 74
Sundry other expenses during year	511 66
	50,373 86

Statement N.—Points of Supply and Distribution of Coal on the Philadelphia and Reading Railroad, for the year ending November 30th, 1847.

Amount of coal received from various lateral railroads in coal region:

	Tons.
West Branch railroad at Schuy'll Haven	555,172
Mount Carbon and Port Carbon railroad, at Port Carbon, from Valley and Mill creek railroads	494,287
Mount Carbon railroad, at Mount Carbon.	210,329
Little Schuylkill railroad, at Port Clinton.	100,893
Total	1,360,681

WHERE DELIVERED; ON LINE OF READING RAILROAD.

Station or turnout.	From Schuy'll Haven.	From Port Carbon.	From Mount Carbon	From Port Clinton.	Total.
Orwigsb'g.	114	38	15		167
Hamburg.	69	773	199	566	1,607
Mohrsville	48	677	160	175	1,060
Bet Mohrsville and Reading	93	759	417	55	1,324
Reading	6,137	33,070	8,236	131	47,574
Baumst'wn		1,446			1,446
Douglassv.	1,364	224	88	57	1,733
Pottstown	1,525	4,238	621	25	6,409
Royer's F'd		285			285
Phœnixv.	10,005	29,374	527	5,972	45,878
Valley F.	1,220	770			1,990
Port Kennedy	2,618	4,156			6,774
Norristown	5,681	3,014	41	235	9,061
Lime Kilns bel. Norristown	2,012	19		623	2,654
Consheh'n, Spr. Mill, and Plymouth r.r.	12,629	25,794	1,777	1,258	41,458
Manayunk	3,724	402	831	388	5,345
Falls	5,382	1,045	632		7,059
Germant'n.	2,426	169		1,280	3,875
Nicetown	3,508	620		970	5,098
Junct'n w'h State road	9,310	717	316		10,343
Philad'a	104,540	63,210	19,195	16,595	203,540
Richmond.	382,767	323,397	177,274	72,563	956,001
Totals	555,172	494,287	210,329	100,893	1,360,681

GEOLOGICAL DISTRIBUTION OF THE ELEMENTS OF THE MINERAL KINGDOM, IN RELATION TO THE USES OF MANKIND.

The theatre of the Westminster Literary and Scientific Institution was unusually well attended on Thursday week, to hear a lecture on this subject by the very Rev. the Dean of Westminster. The chair was taken by the Rev. H. H. Milman, and the lecturer was supported by Dr. Mantell, and many other distinguished visitors. Dr. Buckland, who was most cordially received, commenced his observations, by expressing the gratification he felt at responding to the call of the governors of that institution, to open the present course of lectures. The mass of mankind were ignorant of the materials of which this earth was composed, and of the profitable account to which the mineral elements might be turned. The structure of the earth was of a most marvelous character. It was the perfect workmanship of the Creator himself, and deserving of the study of the highest intelligence. The ancient cosmogonies were of a chimerical nature, and it was not till a short time previous to the present century that this science began to be placed by inductive reasonings on sound principles. His present object was not to consider the geological structure of the earth, or the stores treasured up in the deep foundations of the earth. He would first mention a provision of elementary substances for the creation of water, at the composition of the atmosphere. He briefly described the relative affinities between oxygen and hydrogen, and their uses to mankind. How charcoal entered into the numerous substances of animal and vegetable life—its strange transformations by innumerable natural processes which were constantly going forward, and its benefit to man, was next dwelt upon.

That element, as well as others had a duty to perform, and the duty was performed much better than those which devolved upon mankind. There was another element which entered very largely into human bodies, which was not heard of till about 50 years ago—he meant phosphorus. Would any person conceive that the largest ingredient in cheese was phosphorus? The cheese was made from milk, and from that bone was made, and bones makes the best manure. There was phosphorus, and lime, and iron, present in the blood of every animal; and in every material formed at the creation there was a certain portion of phosphorus and earthy materials. There were now 54 elements, and not four, as they used to be taught at school. The affinities of these elements, their mutual operations and combinations in nature, and how they all concurred for the good of the human race, was dwelt upon at some length, and formed the subject of numerous useful and popular illustrations. Many of these were not visible, and yet their existence could be demonstrated. That taught them a fine moral lesson, and he would affirm that he was not a philosopher who could only believe what he could see. There was a providence in the original creation of these materials.—They were laid up in magazines till they were wanted, and many of them existed for ages upon ages, before they entered into combination for the use of man. There was an anticipated preparation of elements, which were all wanted to make up the body of man and of the animals and vegetables upon which he subsisted; and the application of these elements in their combinations and transformations, in nature and in civilized life, for the convenience, the enjoyments and the luxuries of man, were almost infinite. The elements were the basis of all civilization.

The question of the metals was a very large one, and he would not enter upon it at that late hour. They were dispersed with that liberality commensurated with the importance of the functions for which they were designed. In the course of his address he had shown them that this collocation of matter was so disposed and arranged, that it afforded the strongest arguments to point out a final cause; and it would enable them to deduce some of the valuable moral results, upon which they had done him the honor to request him to address them that evening. An ample and delightful illustration of many principles of geological science would be found in the museum, Craig's court, Charing cross. There were models of coal fields and illustrations of mineralization, and of the application to the arts of many of the substances of which he had been speaking. These were to be seen every day of the week, except Sunday, for nothing—and he would conclude by saying, that he thought he could not offer them a more attractive invitation than that.—*London Mining Journal.*

LIABILITY OF THE RAILWAY COMPANIES FOR RETURNED PACKAGES.

An action was brought against the South Eastern railway company, at the Southwark county court, on Thursday last to recover £7 5s., the value of 41 empty cement casks, consigned by Messrs. Chalkland, of Tunbridge, to Mr. Wood, cement manufacturer, Rotherbithe, which had been lost owing to alleged negligence of the company's servants. The company, by their regulations, undertook to reconvey empty packages, etc., free of expense, and the original transmission of the cement, and the resending of the empty casks to the station, and their reception by the company's servants have been proved, Mr. Church for the company, submitted that they were not answerable, or accountable, for the loss that had been sustained. They were not in the present case carriers for fee or reward, and could only be considered as bailees of the goods, without reward, and therefore not liable for any loss, or damage; and notices to that effect appeared in their offices at every station. The goods were forwarded to be left till called for, and no charge was made; and therefore, it was clear that the company was not answerable. The notice expressly stated, that they would not be accountable for loss or damage of returned empty packages, nor for any goods left until called for, or to order, or left, or warehoused, for the convenience of the parties to whom they are assigned. The judge said he was clearly of the opinion, that in this case the company was not liable—they were in the position of bailees without reward, and with notice that they would not be liable—for he held that the plaintiff, knowing the goods were carried free, also knew the other fact: he should therefore give judgment for the defendant.—Judgment entered for the defendant accordingly, with costs.—*London Mining Journal.*

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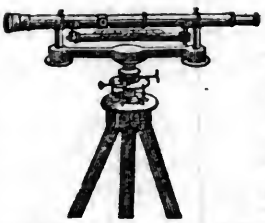
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ANDREW MENEELY.

West Troy, May 12, 1847. 1y•21

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

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THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

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January 29, 1848. tf Springfield, Mass.

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IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without is said. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 254 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

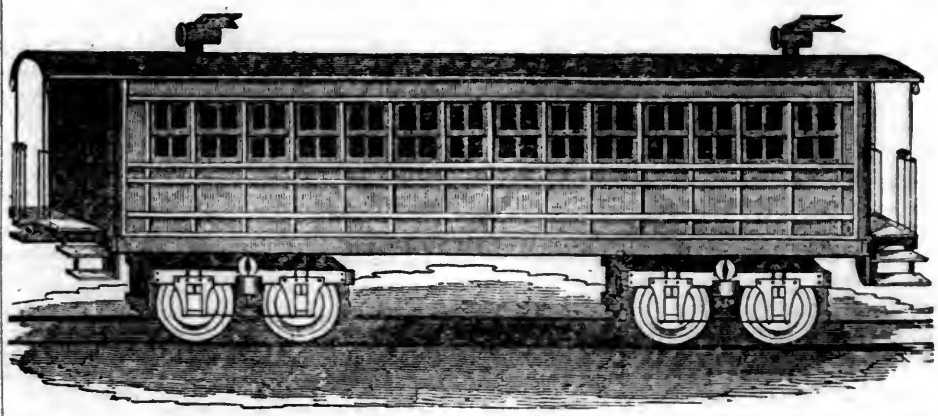
GEO. W. TOWNS, *Governor.*
WM. L. MITCHELL, *Chief Engineer.*
Atlanta, Ga., January 24, 1848. [7t6]

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



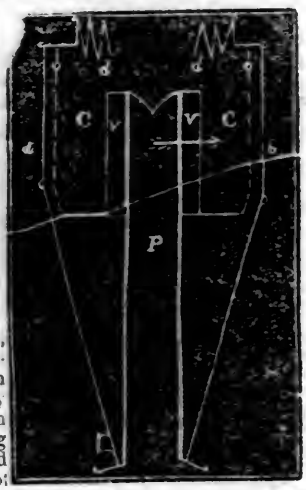
Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

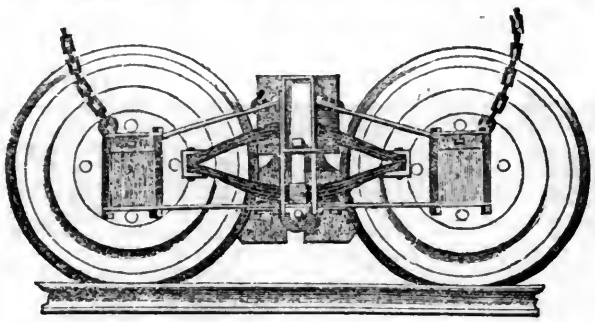
SAM'L KIMBER & CO.,
Willow Street Wharf,
Philadelphia, Pa.
1tf

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartsbrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power

ja15 1y19

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.
SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

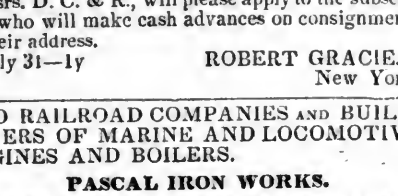
July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T°. L°. and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*,
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

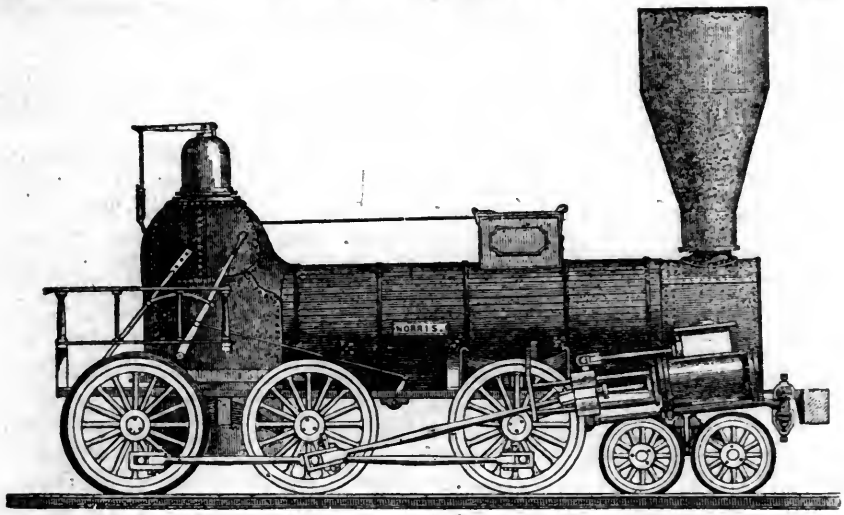
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

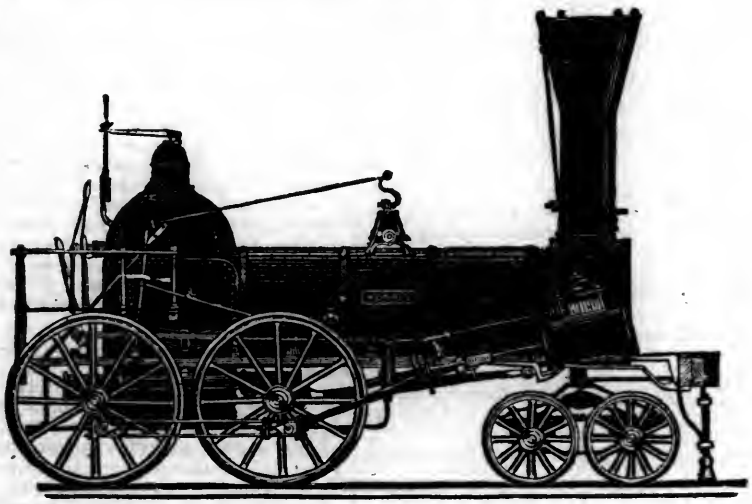
James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Post. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St.. New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

CHILLED RAILROAD WHEELS.— THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.


WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.

1y31 CHAS. MINOT, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars


will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 18 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.— PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between


Concord and Boston, Sundays excepted, as follows. viz:



Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of


Hours. Commencing on Wednesday, April 21, 1847.



Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

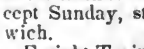
Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday


May 1st, trains will run as follows, except Sundays:



Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

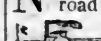
Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

5tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton,


and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars.....3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger


trains will leave daily, Sundays excepted, as follows:



Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrange-


ment. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:



Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5 p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

5t W. RAYMOND LEE, *Sup't.*

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5¼ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10¼ o'clock, A M.; Middletown at 11¼, A. M.; Goshen at 12¼, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

2ltf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4¼ a.m. Upward train arrives at Springfield at 2¼ p.m. Downward train arrives at Cincinnati at 10¼ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road .....32 "

From Bellefontaine to Sandusky city by railroad .....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1¼ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort. other hours as above. 351y

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats; Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12 Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD-FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

t25 JOHN KING, Jr, *Agent.*

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had al order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

LAP-WELDED WROUGHT IRON TUBES

for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY EDMUND DRAPER,

Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 18] SATURDAY, APRIL 29, 1848 [WHOLE No. 619, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, April 29, 1848.

BREESE & ELLIOTT, IMPORTERS OF— and dealers in—Iron and Steel, 245 Water st., New York. Railroad Tires furnished to order.
April 29, 1848. 1m18

PENNSYLVANIA RAILROAD COMPANY. Notice to Contractors. Proposals will be received until Wednesday, the 17th day of May, at 10 o'clock A.M. at the Borough of Huntingdon, for the Grading and Masonry upon about 36 miles of the Pennsylvania Railroad, between Lewistown and Huntingdon, and also for the heavy work along the Liule Juniata, including a large amount of Bridge Masonry.

Plans and specifications of the work can be seen at the above named place for five days previous to the time appointed for receiving the bids.

Any further information can be had upon application to Wm. B. Foster, Jr., Esq., Associate Engineer, at Lewistown. S. V. MERRICK, Pres't.
April 20, 1848. 4t17

☞ ABSENCE for more than two weeks must be our apology for not answering many *very acceptable* letters which we found awaiting our return. We shall give them immediate attention and appropriate replies. To those who have so promptly responded to our call we desire to return cordial thanks—and to others from whom we have yet received no answer, we would say that early attention will greatly oblige and aid us. Prompt remittances of *past* and current years' subscription only will ensure the continuance of the Journal after this year.

Reading Railroad.

The annual report of this company for 1847, was given at length in our two last numbers—which does not, however, quite answer the question of our Lowell correspondent of the 11th instant—although it probably answers his *purpose*. The cause of the delay was two-fold, and first, delay of the company in furnishing it to us—as it had not been received on the 4th of March—and second, we had other matter in hand when it was received. No other reason.

Improvement in Steam Engines.

The Scientific American says that Mr. Mack, a good mechanic of Canandaigua, Ontario county, N. Y., has made a very neat improvement in the working of valves of the steam engine. No eccentric or valve rods are used as in the common way. The piston works the valves independent of all action of the piston rod. This is done by peculiar levers that are struck by the piston itself and no slide rod is seen at all. He has had an engine of one horse power in operation, running for about two months, and it works beautifully, and but for the clinking of the levers, no one could imagine how the valves operated. Measures have been taken to secure a patent.

Important Inventions.

Mr. Joseph Dixon, of Jersey city, has invented a process for making cast steel, an article for which we are now indebted to foreign countries to the amount of millions annually. The New York Morning Star says:—

"A large establishment for this branch of manufacture is about to be erected at Jersey city. The iron to be used is from Adirondack in our own State, and the steel is pronounced by competent judges, equal to the best imported from abroad. The peculiarities of this process, as we are informed, are the use of the black lead crucibles of the inventor's own make, and anthracite coal instead of coke, which is used exclusitely in Europe, with clay crucibles.

"Mr. Dixon has also succeeded in making *pure iron* in masses of any magnitude, a result never before effected. This new metal will be of great utility in the arts. In the first place, in various kinds of engraving, where it is now customary to take cast steel, and after forming it to the required shape, to decarbonize it, it cannot be re-hardened without injury, and it has to be left so soft that it is soon worn out in the hands of the printer; whereas, the pure iron can be hardened to that degree that thousands can be worked off without dimming the original lines. This would be especially true in that delicate kind of engraving called mezzotint. It is also suited to the manufacture of every style of *fire arms*, from the largest 'peace-maker' to the smallest pistol—for lathe mandrils, wire, and all purposes where steel is now used in moving machinery. Some of our first machinists have given the highest testimonials concerning its value. It is to be hoped that the clever inventor will receive a better reward for this, than he has for numerous other valuable and scientific improvements of his own invention."

Wabash and Erie Canal.

Forty miles of the Wabash and Erie canal in Indiana, are advertised to be let at Terre Haute, on the 24th of May next, in sections of half a mile in length. This work, the Cincinnati Gazette says, well deserves the attention of contractors and laborers. The commissioners who abvertise this letting, have about 80,000 acres of choice land for sale near the line of the canal at low rates. Emigrants and laborers, by forming associations, might safety contract for sections of the canal, and place their famtlies at once on tracts of good land, to be opened as their labor is paying for it. We are not aware of so good an opportunity for the industrious poor man to settle himself upon land of his own, as this affords.

Mine Hill and Schuylkill Haven Railroad.

Extension to Shamoken.

We are pleased to be able to state that the governor has signed the bill, giving the Mine Hill and Schuylkill Haven railroad the right to extend their road to Shamoken. The road will be extended from the present terminus, near Coal Castle to Ashland, over the Broad mountain without delay. From thence to Shamoken there will be no serious difficulty in making the road, while the inexhaustible beds of fine coal on the route will afford inducements of no ordinary character to its early completion.

When this is once completed, the road from Sunbury to Shamoken would become a most valuable and important link, and would soon induce capitalists to re-lay the same with heavy iron rails, which the coal trade alone would justify, independent of the lumber, grain, iron, etc., seeking the Philadel-

phia market. To Danville also a branch will be made, to accommodate the vast iron trade of that region. All of which would make the road from the Susquehannah to the Schuylkill one of the most profitable in the State.

Dayton and Cincinnati Railroad.

The Dayton Transcript says that "an amendment has been made to the Deerfield charter which authorizes the construction of a railroad 'from Dayton to Cincinnati on any route that a majority of the directors may deem best.'

"At a recent election, Mr. Beckel was elected president, and Mr. Grimes, J. H. Philips, V. Winters and A. Swaynie, of our city, directors. The other directors live on the contemplated route. It is supposed that the distance from city to city will not exceed 52 miles. A survey will be made immediately, and from the known energy and enterprize of those gentlemen who are the directors of this company, we feel assured that no efforts will be spared to promote the objects contemplated."

Atlantic and Pacific Railroad.

Should the late treaty with Mexico be ratified—says a late number of the Scientific American—we predict that not many years will pass, before the two oceans will be connected by steam power, via the Rio Grande. Nature has done her part towards the improvement, and art will yet do hers. There are no great physical obstacles to be overcome, as is the case further south, whether at the isthmus of Tehuantepec or that of Darien. From the Paso del Norte to the mouth of the Gila, on a direct line, is about 600 miles. The best practicable route for a road, from the most accurate information we have been able to obtain, will not exceed 800 miles—making the whole distance from the Gulf of Mexico, via Paso del Norte, to the Gulf of California, 1300 miles. The head waters of the Gila are directly west of Paso del Norte; they are only distant 115 miles; there is already a high road opened, not only to California, but also through the State of Sonora, to the lower end of the Gulf of California; the Gila is a rapid mountain stream, 30 feet wide, and in the shoalest places one foot deep, (and this at extreme low water, as we learn elsewhere,) and must therefore afford ample water for a large canal which might be made from this point down the Gila to the Gulf of California. A railroad could be made without difficulty, connecting Paso del Norte and the Gila. The mountains between the two oceans are not very high, they can easily be surmounted by American genius and enterprise.

The Coal Trade.

The Pottsville Emporium says "the West Branch railroad is expected to be extended, with the necessary inclined planes, into the Mahonoy coal field, distant some twelve miles from Pottsville. A portion of the same sheet of coal that we have in this basin, form, in their extension, the Mahonoy coal field. A simple inspection of the *Big Vein* in Mahonoy, and the Big Vein here will show their identity. It is a popular error that there the veins are all big and the basin bottomless. The veins are exactly the same size as ours—there being, as here, all sorts, pitching at all angles. The basin itself is of course shallow compared with ours, as its position makes necessary. In the quality of the coal there is no essential difference that we can perceive, nor is there any reason to suppose that there will be no *faults* in that bosom. We never believe in faults here till they reveal themselves under ground. But in the case of everything new and remote, distance, that in practice is so great an obstacle, in theory lends only enchantment to the view. We believe it is an excellent coal field like our own, but the miraculous tales afloat we do not credit, because inspection does not give them color of proof."

We understand, says the same paper, that "there is an active business doing on the canal, especially at Port Carbon, where the charges on the Mount Carbon and Port Carbon railway being escaped, give the shippers by canal, in addition to direct advantages, an extra premium of five cents per ton, which, when coal is selling for almost no profit, is a consideration sufficient to turn the scale. It is therefore at this point that the canal is fortifying itself by the heaviest outlay. Freight by boats from Port Carbon to Philadelphia is 60 cents, and toll 40 cents, making $1 in all. By railway the charge is $1 30. The difference is too much against the railway.—White ash lump coal is selling in the boat at Port Carbon for.....$1 80
Freight and toll to Philadelphia..... 1 00

Cost in Philadelphia..... 2 80
Shipping expenses in Philadelphia..... 15

2 95
Profit of Philad. dealer who ships by canal.. 30

$3 25

Reading Railroad.

An act was recently passed by the Pennsylvania legislature, and received the governor's signature, authorising the Philadelphia and Reading railroad corporation to create $4,500,000 of 'preferred stock,' for the liquidation of all the company's debts which mature prior to the year 1860. If this act shall be accepted by the shareholders, as we presume it will be, at a meeting which is soon to be called for that purpose, the measure will doubtless be carried into effect, as we understand that a large majority of the bondholders have already agreed to it. The president of the road has, we understand, been to Boston endeavoring to obtain the consent of the bondholders there to the arrangement. The road is now *completed*, with double track, a large number of wharves, a full assortment of cars, engines, machine shops, depots, etc.; and last year earned over $2,000,000, or $1,000,000 net, on a cost of about $12,000,000. This paid interest, expenses, repairs, and 12 per cent. dividend on the stock. This dividend, however was made in stock, as the cash had been expended in construction account.

Upon the basis of last year's business, and allowing nothing for increased receipts, the following result for 1848 is confidently predicted, provided the proposed conversion takes place:

Gross income, $2,000,000—net.....		$1,000,000
Interest on $1,000,000 (1860) at 5 per ct.....	$50,000	
Interest on $2,500,000 (1860) at 6 per ct.....	150,000	
Dividend on $4,500,000, converted into 'preferred stock,' at 8 per ct.....	320,000	
Surplus.....	120,000	
		$1,000,000

If wise councils should prevail in the management of the Schuylkill Navigation company, which is now competing with the Reading railroad for the coal business, we might look forward with confidence to the period when both these works might give their shareholders a dividend of *at least ten* per cent.—Will they not learn wisdom?

We learn from the Boston Post that the English bondholders, who are proprietors of about one-half of the whole amount, were represented at the meetings, and it was unanimously agreed that the new shares to be created for the liquidation of the bonds should be entitled to dividends of seven instead of eight per cent. per annum, from the net earnings of the road, which are to take priority to the old stock. This decision evinces good sense and great forbearance on the part of the foreign creditors. If the income shall warrant larger dividends upon the whole number of shares, then the new and old are to be shared equally. If the conversion takes place, the only debts of the company will be the bonds of 1860, less than four millions, bearing five and six per ct. interest. As these bonds are convertible into stock at any time, there is little doubt that long before maturity, the larger revenue from the shares will induce the exchange of bonds for shares, leaving the corporation entirely free from debt.

Let the company now adopt the use of coal, instead of wood, in their locomotives, as they have made the commencement, and introduce a more rigid police, to prevent accidents, and thus reduce their expenses, and then will the *regular increase* of their business insure to the shareholders ample and certain dividends.

Extraordinary Discovery.

"Mr. Wm. Blake, of Akron, Ohio, called on us two or three days ago," says the National Intelligencer, "and exhibited an article that must, we think, become of great value. It was discovered some time since in the township of Sharon, Ohio, and is taken from an excavation in a rock about twenty feet deep, and spreading over some six or eight acres. The substance is black, resembling indigo, and about the consistency of cold tallow, when taken from the mine, but an exposure for a few days to the atmosphere, turns it to a hard slate or stone. It has been found upon analyzation to contain about one-half silicia, one-fourth almina, and one-eighth pyrites of iron, with lesser proportions of magnesia, lime, and carbon. From the extraordinary character of the article, it is supposed by geologists who have visited the mine, that there must be some fissure or crevice in the bottom of the ditch, through which the article, in a liquid state, was ejected from below.

"When the substance is taken out, dried, ground to a fine powder, mixed with linseed oil, and applied with a brush to either wood, tin, iron, cloth, paper, or bricks, and then exposed a few months to the atmosphere, it becomes a perfect slate, impervious to the action of the weather, or to fire—the weather serving only to turn it to stone, and rendering it harder the longer it is exposed, while fire will char the substance to which it is applied before the slate will give way.

"We were shown specimens upon cloth and wood that were as fine specimens of school slate as we have ever seen, and would show pencil marks equally well. It is also susceptible of the highest polish, as we saw a piece upon wood that was polished, and had the appearance of the finest Egyptian black marble. The article is of much value, we should suppose, for covering roofs, steamboats, dams, fences, buildings, and everything else requiring protection from fire or the weather, or for fire fronts, carriages, or centre or pier tables, as it is in fact slate in a liquid state when applied, and in a few months acquires the solidity of the finest slate.

"We learn from Mr. Blake, who has secured a patent for his discovery, that it is sold at his place at $3 per 100 lbs., which will cover the roof of a house thirty feet square, or nine hundred superficial feet."

This *may* be found, not only a preservative against *fire*, for bridges, but also against rot for the superstructure of railroads.—[Ed. R. R. J.]

MASSACHUSETTS ANNUAL RAILROAD REPORTS.

Return of the Boston and Maine Railroad under the Act of April 16th, 1846.

Capital stock	$2,974,100 00	
Increase of capital stock since last report	593,800 00	
Capital paid in per last report	2,300,654 02	
Capital paid in since last report	300,737 50	
Total amount of capital stock paid in		2,601,391 52
Funded debt per last report	191,000 00	
Funded debt paid since last report	8,000 00	
Funded debt, increase of, since last report	None.	
Total present amount of funded debt		183,000 00
Floating debt, per last report	117,396 87	
Floating debt paid since last report		
Floating debt, increase of, since last report	38,192 07	
Total present amount of floating debt		155,588 94
Total present amount of funded and floating debt		338,588 94
Average rate of interest per annum on do	5½ per cent.	

COST OF ROAD AND EQUIPMENT.

For graduation and masonry, per last report	610,789 47	
For graduation and masonry paid during the year	88,533 09	
Total amount expended for graduation and masonry		699,322 56
For bridges, per last report	304,109 16	
For bridges, paid during the past year	22,424 56	
Total amount expended for bridges		336,533 72
For superstructure including iron, per last report	646,136 97	
For superstructure, including iron, paid during the past year	64,763 05	
Total amount expended for superstructure, including iron		710,900 02
For stations, buildings and fixtures, as per last report	165,176 66	
For stations, buildings and fixtures, paid during the past year	92,672 28	
Total amount expended for stations, buildings and fixtures		257,848 94
For land, land damages and fences, per last report	501,372 68	
For land, land damages and fences, paid during the past year	66,442 62	
Total amount expended for land, land damages and fences		567,815 30
For locomotives, per last report	85,000 00	
For locomotives, paid during the past year, [$25,000 being charged off for depreciation]	7,600 00	
Total amount expended for locomotives		92,600 00
For passenger and baggage cars, per last report	35,000 00	
For passenger and baggage cars, paid during the year [$5000 being charged off for depreciation]	3,400 00	
Total amount expended for passenger and baggage cars		38,400 00
For merchandize cars, per last report	42,977 80	
For merchandize cars paid during the past year [$10,000 being charged off for depreciation]	39,550 00	
Total amount expended for merchandize cars		82,527 80
For engineering and other expenses, per last report	218,546 55	
For engineering, and other expenses, paid during the past year	26,677 19	
Total amount expended for engineering and other expenses		245,223 74
Total cost of road and equipment		3,021,172 08

CHARACTERISTICS OF ROAD.

Length of road	72·927 miles.
Length of single track	67·927 miles.
Length of double track	5 miles.
Length of branches owned by the company, stating whether they have a single or double track	9·065 miles. Single track.
Weight of rail per yard in main road, [for 6 miles 45 lbs., the rest varies from	56 to 59 lbs.
Weight of rail per yard in branch roads	45 to 60 lbs. per yard.
Maximum grade, with its length in main road [length 1·023 miles]	47·520 ft. per mile.
Maximum grade, with its length in branch roads [length ·0170 of a mile]	29·57 ft. per mile.
Total rise and fall in main road	1579 ft.
Total rise and fall in branch roads	133·52 ft.
Shortest radius of curvature, with length of curve in main road	Rad. 1050, length 1150 ft.
Shortest radius of curvature, with length of curve in branch roads	[a mile. Rad. 573 ft., length ·218 of
Total degrees of curvature in main road	1894 deg.
Total degrees of curvature in branch roads	Not ascertained.
Total length of straight line in main road	49·761 miles.
Total length of straight line in branches	6·444 miles.
Aggregate length of truss bridges	2067 ft.
Whole length of road unfinished on both sides.—[The road is in good working order, but it is contemplated to make improvements on both sides].	

DOINGS DURING THE YEAR.

Miles run by passenger trains	227,583 miles.
Miles run by freight trains	72,118 miles.
Miles run by other trains	23,580 miles.
Total miles run	324,281 miles.
Number of passengers carried in the cars	729,307
Number of passengers carried one mile	12,599,118
Number of tons of merchandise carried in the cars	120,428
Number of tons of merchandise carried one mile	3,612,840
Number of passengers carried one mile, to and from other roads	Included above.
Number of tons carried one mile to and from other roads	
Average rate of speed adopted for passenger trains, including stops	20 miles per hour.
Average rate of speed adopted for freight trains, including stops	10 miles per hour.
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile	10,211,235
Estimated weight of merchandise trains, including engine and tender, but not including freight, hauled one mile	7,983,170

EXPENDITURES FOR WORKING THE ROAD.

For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron	$19,812 36	
For repairs of truss bridges	Nothing.	
For renewals of iron, including laying down	Nothing.	
For wages of switchmen, gate keepers and flagmen	2,760 00	
For removing ice and snow	9 33	
For repairs of fences, gates, houses for flagmen, gate keepers, switchmen, tool houses	Included in first item.	
Total for maintenance of way		22,581 69

MOTIVE POWERS.

For repairs of locomotives	20,110 50	
For new locomotives to cover depreciation	None.	
For repairs of passenger cars	6,432 10	
For new passenger cars to cover depreciation	None.	
For repairs of merchandise cars	4,618 00	
For new merchandise cars to cover depreciation	None.	
For repairs of gravel and other cars	1,120 15	
Total for maintenance of motive power		32,310 75

MISCELLANEOUS.

For fuel and oil	49,112 78	
For salaries, wages and incidental expenses, chargeable to passenger department	33,401 46	
For salaries, wages and incidental expenses, chargeable to freight department	30,136 46	
For gratuities and damages	2,145 23	
For taxes and insurance, [taxes $7,768 10; insurance $302 50]	8,070 60	
For ferries	Nothing.	
For repairs of station buildings, aqueducts, fixtures, furniture	2,315 53	
For interest	15,233 11	
For amount paid other companies, in tolls for passengers and freight carried on their roads, specifying each company, [Portland Saco & Portsm].	18,994 66	
For amount paid other companies as rent for use of their roads, specifying each company	None.	
For salaries of president treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items	5,957 55	
		165,367 38
		220,359 82

INCOME DURING THE YEAR.

For passengers:—		
1. On the main road exclusively, including branch owned by company	321,181 81	
2. To and from other roads, specifying what:		
For freight:—		
1. On main road and branches owned by company	179,988 78	
2. To and from other connecting roads:		
U. S. mails, $6,411 97; rents, $3,922 30	10,334 27	
Total income		511,504 86
Net earnings after deducting expenses		291,245 04
[Amount charged off during the year, for depreciation of engines, cars, etc]	40,696 11	

DIVIDENDS.

Two—one of $4, and one of $5 per share	214,227 00	
		254,923 11
Surplus not divided		36,321 93
Surplus last year		17,655 71
Total surplus		53,977 64

ESTIMATED DEPRECIATION BEYOND RENEWALS, VIZ:

Road and bridges	We have not the requisite means to make [these estimates.
Buildings	
Engines and cars, [the past year, $40,000 has been charged off on account of their depreciation]	

To the Honorable Senate and House of Representatives:

The directors of the Boston and Maine railroad respectfully present their thirteenth annual report.

During the past year the road has been conducted successfully upon its main line and the branches. The work upon the change of location of the present line of road, in the town of Andover, authorized by the legislature, is in progress of construction, and will probably be ready for use by the month of July next. The laying of a double track has been commenced at Boston, and now extends to the town of Malden, and it is designed to continue laying the same to the town of Lawrence. The bridge across the Merrimac river, at Lawrence, is nearly completed, in a very substantial manner for a double track; and the branch road, to the town of Methuen, is in progress, and will be completed in time to meet, at the line of the State, the Manchester and Lawrence railroad.

To provide for the increasing business of the road, extensive additions have been made the past year to the working furniture; and to prevent the delay of vessels, which has heretofore occurred, from the want of convenience for discharging their cargoes to be transported over the road, large expenditures have been made to procure the necessary wharf accommodations.

An engine house, machine and smith shops of suitable dimensions, with engines, tools and fixtures, calculated to be sufficient to carry on the work required to maintain the motive power of the road, have been completed the past year.

In filling out the blanks, in the form of returns prescribed by the legislature, those under the heads of "capital stock," "cost of the road and equipments," "characteristics of the road," "expenditures for working the road," "motive powers," "miscellaneous," income during the year," and "dividends," are correct.

Those under the head of "doings during the year,"—the number of miles run by the trains, the number of passengers carried in the cars, the number of passengers carried one mile, the number of tons of merchandise carried in the cars, the number of tons of merchandise caried one mile—are only an approximation to correctness.

The number of passengers carried one mile to and from other roads, the number of tons of merchandise carried one mile to and from other roads, cannot be ascertained, but they are included in the general return, so far as they were transported over this road.

—

The following serious accidents have occurred to persons on the Boston and Maine railroad:

Thomas Moore fell from the cars at North Andover, and broke his leg.

Thomas Stevens, a freight conductor, was crushed between the engine and cars, while coupling them together at Lawrence, which caused his death.

Samuel Tibbets, while riding on the top of a covered freight car, was knocked off by coming in contact with a bridge at East Kingston, and killed.

A stranger (name unknown) was killed in the same manner at South Reading.

All which is repectfully submitted.

Thomas West, R. W. Bayley, John Flint, Henry B. Stone, A. Peirce, Samuel A. Walker—*Directors.*

Boston, January 27, 1848.

Delaware and Hudson Canal Report.

We find the annual report of this company in the newspapers. It is exceedingly concise, and to its stockholders, we presume, quite satisfactory, as it shows a net profit of *over twenty* per cent. on the paid up capital.

This state of things must be highly gratifying to those fast friends of the enterprise, who adhered to it through its dark days, and gave to it their untiring efforts, and their undiminished confidence.

It may now be considered in a condition to meet any possible competition, as it has the prudence to pay its indebtedness without creating new liabilities in the shape of loans, while they give its large earnings to the shareholders.

It will be seen that this work has been in use eighteen full years, and, by referring to page 374 of Railroad Journal for 1847, that its business has increased from 43,000 tons in 1830, to 404,000 tons in 1817—that the canal has been enlarged so that now boats of *fifty* tons are used with as much ease as were the thirty ton boats formerly—and the railroad has been so improved as to keep the boats on the canal always employed—and these improvements have all been accomplished without interfering with the transportation on either railroad or canal.

Lessons of wisdom, and of confidence, may be drawn from the operations of this company.

The report is as follows, viz:

Annual Report of the Board of Managers of the Delaware and Hudson Canal Company, to the Stockholders, March 28th, 1848.

A recurrence of the annual meeting imposes on the board of managers the duty of presenting to the stockholders a brief view of the business and operations of the company during the past year. The results have been mainly such as were anticipated by the board, in its last annual report.

Of the stock loaned by the State of New York to the company, $500,000 became due on the 1st of January last: certificates to the amount of $480,371 32 have been presented and paid by the company, and the balance will be paid as soon as presented, viz: $19,628 68.

The statement of the year's business, herewith submitted, shows a net profit of $634,645 45, being a fraction over twenty-two per cent. on the capital employed in the business of the year, and over twenty per cent. on the amount of capital now paid in.

The quantity of coal transported over the railroad during the past year, was 404,000 tons, of which 388,283 tons were shipped down the canal. The high price of produce in the early part of the season, and the loud call for laborers in agricultural and other pursuits, embarrassed the boating business, enhanced the rate of freight on the canal during most of the year, and caused the work of the boats to fall below the delivery on the railroad. The demand for coal presented ample motive for strenuous efforts to correct this evil, and they were therefore made; but it was found impracticable to procure boatmen in sufficient number to maintain a regular and steady movement of the boats, and hence the result of their work was considerably less than it otherwise would have been.

The enlargement of the canal has been completed, as contemplated, and approved by the stockholders three years ago; and boats now navigate it with fifty ton cargoes, with as much ease as they formerly did when carrying thirty tons. It has realized in the saving of freight all that was estimated and anticipated by the board, as a motive for undertaking the work. It is found, by a comparison of coal freights on the canal before the enlargement, with those paid since the influence of this improvement began to be felt, that it has made a saving to the company of over $532,000. It has cost about $300,000.

The improvements and alterations in the railroad commenced about the same time, have also been accomplished. Its capacity is now equal to the transit of 500,000 tons annually; and to this extent the transportation on it will probably be carried during the current year.

The most important event, however, that has occurred during the year, in reference to the interest of the stockholders, is the commencement of a railroad by the Washington coal company, which is intended to connect the lower part of the Lackawanna coal field with the canal of this company, about ten miles below Honesdale. It is contemplated by those engaged in the making of this road, to have it finished and in use by August, 1849. When done, it will bring to the canal a large additional quantity of coal, which is called for by the present and increasing wants of the market: and the tolls upon it will add largely to the revenue of this company. This new railroad will also much increase the miscellaneous trade on the canal, as it will penetrate the valley of the Susquehanna, and thereby connect the canals and public improvements of Pennsylvania with the canal of this company. An avenue will thus be opened by which the products of an extensive and fertile country may reach the New York market, from which it will in return receive supplies of various articles for its own consumption.

The uncompromising hostilities of the two largest companies connected with the coal trade, still exerts a depressing influence on the market. This evil is without remedy, until those who regulate the policy of the conflicting parties shall adopt other views than those which have heretofore governed their course. The board entertain a hope that this may soon occur. Be this as it may, however, the arrangements of this company are made for an efficient prosecution of its business, with a large and growing market; and the board see no reason to doubt, that the operations of the company from year to year, will continue to be satisfactory to the stockholders. By order of the board,

JOHN WURTS, *President.*

Statement of the Business of the Delaware and Hudson Canal Company for the year ending March 1, 1848.

To coal on hand March 1, 1847	$76,119 00
To mining coal	279,830 27
To railroad transportation and repairs.	193,930 83
To freight of coal to Rondout	376,514 31
To canal repairs and superintendence.	98,165 24
To labor and expenses at Rondout	37,320 32
To interest on State stock	38,150 00
To rents, salaries, current expenses, etc., New York	23,238 05
Balance	634,645 45
	1,757,913 47
By sales of coal	1,588,420 30
By canal and railroad tolls	38,971 34
By interest received	32,809 83
By coal on hand	96,712 00
	1,757,913 47
Balance	637,645 45

Statement of Tolls received on the Delaware and Hudson Canal and Railroad in each year since the completion of the works.

1830	$16,422 44
1831	20,554 64
1832	28,714 51
1833	37,004 58
1834	36,946 07
1835	41,976 82
1836	45,154 73
1837	44,832 42
1838	40,328 38
1839	40,095 26
1840	35,450 46
1841	39,388 19
1842	33,894 93
1843	30,996 53
1844	33,525 61
1845	25,880 92
1846	26,068 65
1847	38,971 34
	616,209 48

ISAAC N. SEYMOUR, *Treasurer.*

New York, March 1, 1848.

Michigan Central Railroad.--First Annual Report.

We received the following report some time last fall, and marked it for publication, but it was laid aside for some reason, and not again referred to. In October another copy, with the report of J. W. Brooks, Esq., upon the merits of this work as an investment for eastern capitalists, and the charter granted by the legislature of Michigan to the company, was received, but under the impression that the report of the treasurer had been published, no reference was made to it.

It may not, at this late day, be worth while to republish the report of Mr. Brooks entire, though it contains many facts of interest in relation to the then condition of the road, and the business of that region, yet we make the following extracts from it, by way of putting on record such facts as may be of interest for future reference in relation to its condition and business when it passed into the hands of the company. He says:

The Michigan Central railroad, commencing at Detroit, and passing through the villages or towns of Ypsilanti, Ann Arbor, Dexter, Jackson, Marshall, and Battle Creek, to Kalamazoo, with the view of being extended to the lake, thus forming a line across the entire peninsula from Detroit river to Lake Michigan, was commenced at an early day by private enterprise—purchased and continued to its present termination by the State, and is now the property of the State of Michigan.

The difficulty experienced by the government in the management of its railroads, it being out of its legitimate sphere of duty, and the want of ability on the part of the State to complete, and thus render productive this road, have raised the question of a sale and final disposal of all the public works by the State, and caused an examination of the Central railroad at the request of the citizens of Boston, to be made with the view of ascertaining, as near as might be, its present condition, probable cost of completion, and future prospects as an investment.

The superstructure of the road, on the first thirty miles, from Detroit west, is composed of undersills, rough-hewed upon two parallel sides, from trees of elm, oak, or any other kind that were nearest at hand, without regard to fitness or liability to decay; their thickness being about seven or eight inches, with bearings from six to twelve inches, and cross-ties of white oak, placed three feet asunder, and spiked to the undersills, into which are let white oak rails, six by six, or five by seven inches square, well secured by wedges or keys; the whole being supported upon short blocks of wood of different lengths, varying according to the distance between the bottom of the undersills and a firm foundation, such blocks being squared at the ends, and firmly set as a foundation, upon which the superstructure is placed.

The rest of the superstructure of the road to Kalamazoo, is substantially the same in its manner of construction, excepting that the block foundation is dispensed with, and the undersills are of white oak, mostly cut from low lands, on accoount of the greater durability of the swamp oak, and the workmanship and materials are much improved as the road has progressed westward. The track between Jackson and Kalamazoo (sixty-seven miles,) being for a plate railroad, a very superior track.

Portions of the road has been in use as follows:

Detroit to Ypsilanti, 30 miles, since February, 1838.

Ypsilanti to Ann Arbor, 8 miles, since October, 1839.

Ann Arbor to Dexter, 11 miles, since July, 1840.

Dexter to Jackson, 28 miles, since January, 1842.

Jackson to Marshall, 32 miles, since August, 1844.

Marshall to Battle Creek, 13 miles, since November, 1845.

Battle Creek to Kalamazoo, 23 miles, since January, 1846.

On the first thirty miles out of Detroit, the superstructure is old and much decayed, having never been renewed, except by such repairs as were absolutely necessary to keep the road in operation; and the iron, which is only ¼ by 2¼ inches, is practically worn out, and very much broken; the next twenty miles has the same sized iron, and is very much worn, though somewhat less than the first thirty miles.

The balance of the track to Jackson, (thirty miles,) is ironed with bars of the same size, and were the business of the road such, that iron of that size might be considered suitable, the superstructure would last, without extensive repairs, from two to three years longer.

The remainder of the road to Kalamazoo, a distance of sixty-seven miles, is ironed principally with a bar ¾ by 2¼ inches, and the superstructure is in good order.

There is upon the line considerable useless bridging of a cheap and perishable nature, which has been used (though a somewhat expensive economy,) to save the cost of embankments. In all such cases, material of a kind easy to be removed is at hand with which to fill them up.

The necessary bridging of the line is quite limited, as few streams of material size cross the track, and the general character of the soil being porous, and the face of the country not very uneven, the number of culverts will be quite limited also.

The road is very deficient in depots and other buildings for the accommodation of its business and the protection of its property, having but four passenger depots upon the line, and none at Detroit, and having a small freight house and engine house at Detroit, which constitute all the buildings of this kind upon the road. The buildings and fixtures at the latter place are of an inferior order, built for the road when it was thirty miles long, and the ground upon which they stand not admitting of their extension.

The freight at this place has mostly to be delivered in the open air, exposed to damage from the weather and other causes, and the depot building located nearly half a mile from the river, most of the freight which is carried over the road to and from Detroit, has to be carted between the depot and the storehouses upon the docks, thus subjecting the property to a heavy charge for carting as well as for storage or wharfage in its transition from the railroad to the vessels upon the river. Needless expenses of this kind are fastened upon all the property carried over the road, to an amount sufficient to pay well for its transportation upon the railroad from twenty to thirty miles.

About eight miles of the first ten out of Detroit has a road bed of clay, but dry material of a suitable quality to raise the track with, is not very difficult to be procured. Distributed in short pieces throughout the line between Dearborn and Dexter, are about thirteen miles more of bad road bed, most of which is between Ypsilanti and Dexter, in the valley of the Huron river. Dry material of a good quality is conveniently located for raising the whole of this above the influence of the clay.

The whole of the bad road bed between Detroit and Kalamazoo, may be set down at about twenty-one miles, and the average haul for one half the dry material to raise it with will be about three miles, and the average haul of the balance not over one mile.

A portion of the embankments in the valley of the Hudson river are narrow, and require a little widening; otherwise, the general width of the cuts and embankments is good. This feature of the road will compare well with most well constructed roads, which

doubtless arises from the light cost of the grading, which is small in amount, easy to excavate, and to be removed but short distances.

Excepting in the valley of the Huron river, the line of the road is unusually straight, having a large amount of straight line, with most of the curves quite gentle.

The steepest grades of the road are descending eastward, which is favorable to the heavier freighting business of the line. The maximum grade, rising eastward, is thirty feet to the mile, and there are but one or two short pieces as steep as that. Another favorable feature of the line is, that through the Huron valley, where is most of the strong curvature, the road is either level, or has very gentle grades; little if any strong curve and grade occurring in the same place.

From Detroit to Kalamazoo the curvature and grades of the road are as follows:

Curvature.	Miles.	Feet.
From 750 to 1,000 feet radius	1	189
From 1,000 to 2,000 feet radius	7	1,332
" 2,000 to 3,000 "	6	4,473
" 3,000 to 4,000 "	5	2,038
" 4,000 to 5,000 "	9	1,138
Over 5,000, and straight line	115	1,390
Total distance	145	

Grades.		
Level	39	180
Under 10 feet per mile	40	3,820
From 10 to 20 feet per mile	37	5,168
" 20 to 30 "	21	4,092
" 30 to 37 "	5	2,580
Total distance	145	

Timber is very abundant upon all parts of the line, having little value beyond the cost of procuring and delivering it.

The quality of the white oak of this vicinity is apparently superior to that of New England. That of the low lands is quite plenty on parts of the line, and is more durable for ties than most kinds of the wood now in use for that purpose.

Hard wood fuel is furnished at the several depots upon the line, excepting at Detroit, for from 75 cents to $1 per cord. Pine, or other soft woods, excepting bass and white wood, are not plenty on the route.

There has been only a single experimental line run from Kalamazoo to St. Joseph, and that about eight years ago. In that survey, there were indications of one grade a short distance beyond Kalamazoo, as high as fifty feet to the mile, but the engineer who made the survey says that by making the line a little longer, (a mile at most,) the grades can be brought as low as upon the rest of the road.

The balance of the line is very favorable, much of it table land, and nearly level. The soil is generally a loamy sand, very easy to be removed, and quite suitable for a road bed there, where the frosts of winter are not very severe.

Excepting at St. Joseph, in the event of crossing the river at that place, there is hardly a bridge required of any magnitude upon the whole line. Should a bridge be built at that place, it would be short, and could be a pile bridge, there being no stone in the vicinity. It would not be expensive.

Crossing the St. Joseph river, unless the bridge was about fifteen feet above the water, would involve the necessity of a draw bridge, as that river is navigable.

The right of way, as far as the road has been built, has cost about fifteen dollars per acre. The country west of Kalamazoo, in the immediate vicinity of the line as run, is much less settled than that east of it. It is therefore probable, that the right of way would not cost to exceed that sum per acre for the balance of the distance.

The country being sufficiently favorable to admit of questions as to the location, much of the land would probably be given to secure the incidental advantages growing out of the location of the road.

The timber upon this portion of the line has little or no value in the woods, much of it being girdled or otherwise destroyed by the new settlers every year.

It may be questioned whether St. Joseph is the best point for the western terminus of the road, though that question has probably not been raised by the State authorities of Michigan. The road, if run to New Buffalo, would be about twenty-two miles longer than if run to St. Joseph.

	Miles.
The distance from St. Joseph to Chicago by water is	61½
From New Buffalo to Chicago by water	45
From Detroit to Chicago, via St. Joseph and across the lake is	261½
From Detroit to Chicago, via New Buffalo and the lake, say	267

Notwithstanding the distance via New Buffalo, when the lake is used as a part of the route, is, according to the above statement of distances, five and a half miles greater than that via St. Joseph, yet the former route has enough less distance by water, to consume, in the aggregate, three-fourths of an hour less time than the latter.

This comparison is applicable to the season when navigation is open upon Lake Michigan, which is from nine to ten months in the year; the balance of the year the comparison would stand as follows:

	Miles.
From Detroit to St. Joseph, by railroad	200
From St. Joseph to Chicago, by stage	88
Whole distance, via St. Joseph	288
From Detroit to New Buffalo, by railroad	222
From New Buffalo to Chicago, by stage	60
Whole distance, via New Buffalo	282
Distance in favor of route via New Buffalo	6

The route via New Buffalo has therefore twenty-two miles more railroad and twenty-eight miles less staging for the winter season than that via St. Joseph, which amounts to a saving in time of from four to six hours.

This saving of time does not appear to compensate but for a small part of the expense of twenty two miles of railroad; but in the event of the construction of a railroad round the head of Lake Michigan to Chicago and the west, the distance between Detroit and Chicago, by railroad, would be shortened about six miles, by having the present western terminus at New Buffalo; and should a railroad be built round the south shore of Lake Erie, which may be considered quite doubtful, the distances from Buffalo to Chicago, by railroad routes, might be brought into comparison. In that event, it would be found that from Buffalo to Toledo, on the lake shore,

	Miles.
Could not be less than	326
From Toledo to Chicago, by the most direct route, could not be less than	249
Total distance by southern route	575
From Buffalo to Detroit, by the Niagara and Detroit rivers railroad, (Canada West)	220
From Detroit to New Buffalo	222
From New Buffalo to Chicago	60
Add for ferries at Buffalo and Detroit	4
Total distance by direct route	506
Difference in favor of Canada and Central railroad route	69

It is proper, inasmuch as I have not measured distances on the south shore of Lake Erie, to quote the following from the report of the directors of the Great Western railway, (Canada West,) in which, while referring to the security of their road against competition by other railroads, after speaking of routes to the north of theirs, they say, "neither can any road be made to the southward of it without winding round the south shore of Lake Erie, and increasing the distance by at least one hundred and twenty-five miles."

It may be urged that there is one, and should the contemplated bridge across Niagara river not be built, there would be two ferries in the line of the direct route. In answer to which it may be said that the northern route is one of the straightest and most level in the country, and the route on the south shore of Lake Erie having such unevenness of country, and many rivers to cross, cannot be otherwise than much curved with heavy grades, perhaps enough to make the average speed upon the northern route, including the ferries, as great or greater per hour than that upon the southern one.

Should this road be built round near the shore of the lake, in an effort to compete for the through travel, it would then be so much longer than the best of water communication, that its prospect for a fair share of the passenger business, even were there no other railroad route, would be quite questionable. Should it be built in the interior, in order to get a freighting business, aid from that source must be uncertain, as there are already railroads and canals running from the lake to the interior, acting as outlets for the produce, and inlets for the merchandise of that section of country.

The probability of the construction of the southern route to the extent above named is so small that a further discussion of it is not deemed necessary.

The remaining, and perhaps the most important argument in favor of terminating the Central railroad at New Buffalo is, that by so doing the St. Joseph river would be crossed (by river distance) from 25 to 40 miles above its mouth, by which means the produce coming down the 150 miles of the navigable waters of that river, would find a means of getting to market without being obliged to follow the river down to its mouth, and would be much more likely to come over the Central railroad from there than from St. Joseph, where the competition of

the lake route comes directly against that of the railroad.

This river takes to the lake the produce of some of the best counties of the State, as well as from two counties of Indiana.

The accommodation rendered to the middle and western portion of the southern tier of counties by this route would do away with the necessity of continuing the southern railroad much farther into the interior, while it would also avoid the necessity of constructing, at a future day, some 28 miles of railroad between St. Joseph and New Buffalo, parallel with, and near to the lake shore, rendering much less accommodation to the public, and consequently less return to the stockholders than the interior route, which, passing through a rich section of country, would receive a fair return for the benefits it conferred upon it.

This extract gives an idea of the condition and character of the road, and of its comparative advantages with the proposed line through Ohio, to Chicago.

The estimated cost of the work from Detroit to the lake at St. Joseph, including the purchase of the State, $2,000,000—complete with the requisite machinery and depots to accommodate the business offering was $4,050,000. To this may be added for two steamboats $130,000, should the company avail themselves of the provisions of their charter, which allows them to own boats.

He estimates the business of the road when completed, as follows, viz: of freight he says:

During the first nine months of the fiscal year of 1844, (ending on the last day of November,) the road was in operation to Jackson, a distance from Detroit of 77 miles; the balance of the year it was in operation to Marshall, a distance of 109 miles, the average working length for the year being 85 miles.

Leaving out all advantages to be derived from carrying the freight of the balance of the road, a greater than the average distance of the freighting of the present road, to set aside all questions, and give a greater degree of certainty to the estimates when made, I will put down for the domestic business of the road only the same amount per mile that was received in 1844, upon the inefficient, worn out, and half equipped wooden road now in use, though it is acknowledged by all acquainted with its operations, that as at present worked, it is not able to do, by a large amount, the business furnished upon its line.

In 1844, the receipts of the road, exclusive of those for the transportation of U. S. mail, were, for the 85 miles of the road in operation	$206,867 48
Which is per mile	2,433 73
At that rate the domestic business of the 200 miles of the road would am't to	486,746 00

And of the passenger business he says:

The whole number of upper lake passengers carried in 1844 by the regular line of steamboats, as before stated, was 95,872, one-third of which, as first class, would be	31,957
One-half of the balance, as the portion that would go by railroad, and pay the road $4, would be	31,957
30,000 first class passengers, at $6, for the fare by railroad, would give	$180,000
30,000 at $4, would give	120,000
Total for through passengers	300,000

It will be perceived that in this estimate no allowance is made for the increase of travel which would naturally be the result of shortening the distance between the east and the west nearly three days, or for the additional security of railroad conveyance over that of the lakes.

It is not easy to see why steamboats running in direct connection with this railroad should not yield a better revenue than boats working under ordinary circumstances upon the lakes. They are sure of a full load in one direction, and apparently much more sure of a load in the other, as the public would naturally expect the boats of the company to connect more certainly with their cars than the boats of other lines.

I shall not, however, estimate the net receipts as great even as on many of the boats now in use upon these waters.

It will be perfectly safe to put the net receipts of these boats at $25,000 each per annum, making for the two boats the sum of $50,000.

Leaving out the receipts for transporting the U. S. mail, by supposing them equal to the State tax upon the road, which is specifically one-half of one per cent., till February, 1851, and after that time, three-fourths of one per cent being payable in the last week of January, 1852; which annual tax is in lieu of all other taxes, we have as receipts of the road,

For the domestic business as above	$486,746
For through passengers	300,000
For steamboats, (net)	50,000
Total	836,746

The distance which trains would probably run in the operation of the road when completed, would be as follows:

313 trips of passenger trains, at 400 miles per trip	125,200
A second passenger train, eight months in the year, say 208 trips, at 400 miles each.	83,200
313 trips of freight trains, at 400 miles per trip	125,200
200 trips of freight trains at 200 miles	40,000
156 " " 100 miles	15,600
Extra trains, etc., say	30,800
Total miles	420,000

In 1844, (I have not at hand the reports of 1845,) several railroads in New England cost to operate per mile as follows:

Western railroad	63·04 cents.
Boston and Maine railroad	41·06 "
Eastern railroad	53·34 "
New Bedford and Taunton railroad	59·85 "
Norwich and Worcester railroad	50·81 "
Average per mile	53·62 "

Inasmuch as the wood upon this line will cost about six cents per mile run less than upon those above quoted, the average cannot be considered otherwise than sufficient to cover the expenses of operating this road.

420,000 mile run at a cost of 53·62 cents per mile, would be	$225,204
Which being deducted from the above estimated receipts, leaves a net revenue of	611,542

Allowing that the stockholders put in a capital of $2,500,000, and made a loan for the balance, say $1,680,000, at 7 per cent., the result would stand thus:

Net profit as above	$611,542
7 per cent. on $1,680,000	$117,600
18 per ct. on capital of $2,500,000.	450,000
	567,600
Surplus profits	44,942

Such were the estimates of the able engineer, of the prospects of this road, when it shall have been completed, and in successful operation—and *enormous* as they may appear to many, we have not a doubt but that the *earnings* of the road will equal his estimates, but we shall not be much disappointed to learn, when the road is completed, that its cost comes up to *five*, or *five and a half* millions of dollars. Even at that cost, however, the investment will be quite good enough—so good, indeed, that we shall have some regrets that Michigan, that noble young State, could not have completed the work, and realized its anticipated advantages.

We now give the *first annual* report of the company, up to May, 1847, and shall look with some interest for the next annual report, to May, 1848.

First Annual Report of the Directors of the Michigan Central Railroad Company to the Stockholders.—Boston, *May* 27, 1847.

To the Stockholders of the Michigan Central Railroad Compnny:

Gentlemen—On the part of the directors of the company, I beg leave to submit herewith the annual report of Geo. B. Upton, Esq., treasurer of the company, in regard to which I have only to remark, that it contains much matter belonging more strictly to the department of J. W. Brooks, Esq., our superintendent and engineer, compiled from his reports to the directors. Hereafter, separate reports will be laid before the stockholders from the treasurer and superintendent; and this course would have been taken now, but for the very onerous duties imposed, by the state of our affairs, upon our superintendent, to whose zeal and ability I am requested by the directors to bear testimony on this occasion. Respectfully, your ob't servant,

J. M. Forbes, *Pres't.*

REPORT OF THE TREASURER.

To the Directors of the Michigan Central Railroad Company:

I herewith submit an exhibit of the accounts of this company, made up the 1st inst, agreeably to a vote of your body, determining the annual and semi annual accounts to be made up to the 1st of May and November of each year.

By the charter of the company, as it originally passed the legislature, the annual meeting was fixed for the second Monday of June, and by its further requirements, an annual report was to be made to the legislature, embracing the business of the road for the preceding year, and up to the 1st of January. This, as will be perceived, would require a special making up of accounts to that time.

It was therefore suggested, that an amendment should be asked of the legislature, the result of which application, was the passage of a bill changing the annual meeting of the company to the 4th Monday in June, in each year, and the annual report to the legislature to embrace the business of the company for each preceding year, to the 1st day of December. An attested copy of this act is herewith accompanying; and, as the report is submitted to you, and through you to the stockholders, it is respectfully requested that

it be by them accepted. In this event, the annual and semi-annual accounts will hereafter be made up to the 1st of June and 1st of December of each year, and our stock account will be made up and closed on the 1st of December next, and the certificates for the same then issued.

This company purchased, made their first payment to the State, and took possession of the road on the 231 day of September last. The capital stock subscribed is 22,000 shares, which, for convenience, and until the stock account is made up, have been estimated at $75 per share.

The first assessment of $25 the share was ordered payable the 15th of September last, and a provision was also adopted, allowing parties who desired so to do, to increase the amount of this payment, and for which an interest account is to be allowed of 7 per cent., until the final assessment is called for.

There has already been paid in, in cash and in State indebtedness as cash, from the stockholders, the sum of $1,089,332 46, and leaving the amount due from them, in cash or in State indebtedness, $560,667 54.

There has been paid to the State, on account of the purchase, the sum of $1,643,106 62, leaving a balance due to them, payable in State indebtedness under the act, of $356,893 38.

Of this amount, $75,000 is already purchased, but not yet paid in to the State, and arrangements are now making for the purchase in Europe of the balance, or about $250,000, on which the company have until the 23d of September next to complete the arrangements.

There is due to sundry individuals on account of the purchase of State indebtedness, and payable mostly in the bonds of the company, the sum of $220,230 66.

The earnings of the road since its purchase by the company, have been $209,300 10.

Month.	Freight.	Passengers.	Miscellaneous.	Total
Sept., 8 ds.	$5,229 05	$3,954 62		$9,183 67
October ..	32,325 21	17,758 21		50,083 42
Nov'r....	30,041 89	10,241 85		40,283 74
Decemb'r.	14,269 39	5,395 50		19,664 89
January..	9,926 11	4,207 18		14,133 29
February.	14,158 13	4,739 58	$554 21	19,451 92
March...	17,964 76	5,051 38	83 14	23,099 28
April	23,038 01	9,411 57	950 31	33,399 89
	146,952 55	60,759 89	1,587 66	209,300 10

RECAPITULATION.

Freight	$146,952 55
Passengers	60,759 89
Miscellaneous	1,587 66
Total	209,300 10

It has cost to operate the road during the time, the sum of $86,167 49, as follows:

Road repairs	$21,180 76
Building repairs	699 71
Shop repairs	214 80
Locomotive repairs	13,069 74
Car repairs	5,758 72
Locomotive services	7,135 67
Train services	1,600 95
Station services	19,938 03
Fuel	7,390 47
Stationery	1,551 39
Incidentals	749 81
Oil	4,182 80
State tax	2,694 44
Total	86,167 49

And leaving a balance of net earnings of $123,132 61.

There has already been charged off to the account of construction, apart from the sum paid on account of the purchase of the road, $175,663 30, and which amount would be daily increased as the work now in progress is advanced, and until its final completion.

Contracts have been made for the purchase of 18,500 tons of iron, at an average cost of $73 per ton, deliverable in Detroit.

7,000 to be delivered the present year.
8,000 to be delivered in 1848.
3,500 to be delivered in 1849,

Or whenever the company shall require it thereafter.

The road has been located to the westward of Kalamazoo, as far as Antwerp, a distance of thirteen miles; contracts have been made on as favorable terms as was expected for the grading, the ties are contracted for, and there is no doubt but that the iron will be laid upon this portion of the road before the close of next winter.

The materials have been collected, and the arrangements made, for relaying about fifty miles of the east end of the road with heavy rail during the present season, and only now awaiting the arrival of the iron, in order to commence this very necessary reconstruction of this portion of the road.

A large and commodious site has been purchased in the western part of the city of Detroit, and adjoining the river, for the construction of a dock, and the erection of merchandise and passenger depots, and the necessary engine and repair shops, and the materials are in progress of collection, and the buildings are being commenced, in the firm hope that they will be ready for use some time during the present year.

The passenger depot and car house will be 325 feet in length, and 75 in breadth.

The merchandise depot will be 800 feet in length, and 100 feet in breadth; and it is believed that the whole detail and arrangement of the various buildings will, when completed, compare favorably with those of any other company.

Contracts have been made for placing upon the road six passenger and freight engines during the present year, of such size and power as shall meet the increased business of the company; and arrangements have been made for the building, under the eye of the superintendent and engineer, an ample supply of passenger and merchandise cars.

The original estimates of the cost of the station at Detroit, including the purchase of land, and also at several other points on the road, will, no doubt, be considerably increased; but the diminished price of iron, over and above the estimate for that article, will, in the opinion of your treasurer, entirely cover any excess which has been discovered in any other outlay, as compared with the original estimates.

The surveys from Antwerp to some point on Lake Michigan, are in progress of completion, and a very early determination of the western terminus may be expected, in order to press the completion of the road to the lake, so far at any rate, as its running power is concerned, by the close of the year 1848.

All of which is respectfully submitted.

GEO. B. UPTON, *Treasurer.*

Boston, May 1, 1847.

Railroads in New England.

The following is from the Newburyport Herald. It says:—

The Bostonians are becoming anxious about the enormous expense attendant upon the necessary railroad depot accommodations for the numerous roads coming into the city, and even the impossibility of obtaining at any price land enough for the necessary houses. It has cost old Colony road nearly as much for depot accommodations in Boston as the whole cost of the road, and a very large portion of the capital of the Worcester road has been spent in the same way.

The Courier says, "judging from past experience, in ten years the present trade of our city will be more than doubled, and its population increased to between 200,000 and 300,000, overflowing the city proper, and covering East and South Boston, and the adjacent cities and towns. The natural inquiry is, 'where are the needed storehouses to be located? and what bearing does this view have upon the depots necessary at the outlets and inlets of these iron rivers.' It is next to impossible for the Worcester, the Lowell, and the Boston and Maine railroads to obtain the necessary grounds, and the public feel already the insufficiency of their accommodations. What then, must the condition of things be in future years, when the length of roads from the city shall equal the Mississippi in their reach into the interior? The great increase of freight and travel has hitherto exceeded all calculation even of the most sanguine."

The memorial of Robert G. Shaw and 487 other merchants of Boston, to the legislature for an extension of the Vermont and Massachusetts road to Troy, on the Hudson river, says, "the Great Western road has for the two years proved incompetent to accomplish the transit of the vast productions of the west to the capital of New England.

"And the petitioners believe that the further facilities of this immense eastern traffic, afforded by the State of New York to Troy and Albany, both by new railway avenues, and by widening her grand canals, will far outstrip any additional facilities now creating, or which can be created by the present Western road, even with a double track."

The Northern railroad, from Concord, N. H, to Lebanon, built through a wilderness country, at a high cost, is obtaining, even in the present temporary depression, a traffic surpassing the most sanguine expectations. At the opening of this road, Mr. Webster, through whose farm in Franklin it passes, predicted that *upon the completion of the great lines in the direction of Lake Champlain, one sea port would be insufficient, and the whole northern shore of the commonwealth, from Boston to Newburyport, must become one grand harbor of export and import.*

Nor can one set of railroads accommodate

this business. A pressure is already felt upon every railroad terminating in Boston—even upon the Boston and Lowell railroad, whose stockholders are so continually groaning about competition and interference. Upon this road the business has regularly and rapidly increased, although the Fitchburg railroad has been opened on one side, and the Boston and Maine on the other. During the last year, the increase of merchandise transported upon the Boston and Lowell railroad amounts to about 60,000 tons.

Well may the Boston railroad companies "become anxious about the enormous expense" of the necessary grounds for depots, when their roads shall be completed, and their influences be in active operation. In no one point of railroad matters, have greater miscalculations been made, in their early history, than in the grounds necessary for depots.

We have been somewhat surprised that *Newburyport* has not offered to relieve Boston of a portion of this difficulty, by constructing a railroad to Nashua, or Concord, and thus give another outlet to the business of Northern New Hampshire and New York. Perhaps they will do so now—we have suggested it to them. If they do, we shall not charge any thing for the idea.

Hudson River Railroad.

Mr. Flagg has entered on the duties of his office as president of the company.

The contracts for grading the twelve sections from Fishkill to Poughkeepsie, have been made for $30,975 less than the estimate of Mr Jarvis, without including the 10 per cent. allowed by him, in addition, for contingencies.

The contracts for grading were heretofore made from New York to Fishkill; so that the whole line is now under contract to Poughkeepsie. The board confidently expect to open the road to that place in May, 1819.

Railway Junctions.

A paper was read before the Institution of Civil Engineers on the 21st of March, on the mode of laying out railway junctions, by Mr. A. Beaulands, of which the following is a sketch. He said:—

The object of the paper was to supply a methodical rule for setting out that portion of a branch line of railway included between the rails of the main line. The author observed, that in all ordinary cases, the curve of the branch line, which was supposed to be straight, by the ordinary methods of setting out railway curves, since the junction was required to make an offset of 4 to 5 in. on the length of the switch rail, which was much greater than the offset made from the tangent in the same length, by a curve of moderate radius, so that it was necessary to make the junction line start abruptly at a finite angle with the main line. He therefore considered the junction curve to be determined by its passing through three given points, namely, the two extremities of the switch rail and the furthest point of crossing; and from these data he showed how the radius and centre of the circular arc might be found, as well as the positions and angles of the various crossings. To render the method more easy of application, the author gave a table calculated from the principles and formula laid down in the paper assuming an ordinary form of the switch, and a series of valves of the lead, a distance of the furthest crossing extending to the greatest limit likely to occur in practice. In the course of the discussion which ensued upon this method, as compared to the ordinary system of setting out junctions by a comparatively empirical rule, well understood and practised by the plate layers on railways, Mr. Wild's switch was alluded to and exhibited. In this switch, all notching and inequality in the bearing surfaces, the fixed rails, were shown to be avoided by the ends of the tongues being ground under such surfaces, instead of being notched into them; the tongues being consequently at their points, and for some distance beyond them, lower than the fixed rails, exercised where they were weakest, merely a lateral action against the wheels, without bearing any of the weight of the passing trains. Several engineers who had employed these switches extensively, expressed themselves relative to them in very commendatory terms, and stated that they were not only manufactured in a very superior manner, but that their action was very perfect, and that they tended greatly to the prevention of accidents in railway travelling.

From the American Mining Journal.

Lead Region and Lead Trade of the Upper Mississippi.

A very interesting and well written article on this subject appears in the last number of Hunt's Merchants' Magazine. From it we glean the following facts. The existence of lead ore in the country of the Upper Mississippi has long been known. Traces of it were pointed out to the early French voyageurs and traders by the Indians, who finding that they could make it an article of traffic, began to dig for it and convert it into metal.

Their mode of reducing the ore was by throwing it, when a small quantity had been collected, on to large fires, which were then permitted to burn out, when, in the ashes, or in small holes previously dug for the purpose, the melted lead would be found in shapeless pieces. These were sold to the trader. Some of the old "Indian diggins," that have been found and "proved up," have turned out to be very valuable. The most productive lode (or lead, as it is called by the miners of that region) yet found, was an Indian discovery, and is known as the "buck lead." It is within a mile of the present city of Galena. On the west side of the Mississippi river, in the then Louisiana territory (now Missouri,) discoveries of lead ore were made about the same period as those on the east side. Attempts were made by the governor of the colony, then subject to France, to work the mines, but owing to difficulties with the Indians, and the confusion into which its affairs soon after fell, without any considerable success. They were then granted by the French king to Anthony Crozat, who, after five years of toil and expenditure, without any corresponding return, relinquished his patent to the famous Mississippi company. It is supposed that this company succeeded in finding large quantities of ore; but in 1720, three years after their relinquishment, the "Mississippi bubble," as it was called, burst, and from that time, for a long period the mines were pretty much abandoned. In 1788, Julien Dubuque, a mineralogist, who had some years previously settled among the Sac and Fox Indians on the Upper Mississippi, near the site of the present town of Dubuque, received from the latter a grant of a certain mine, and the privilege of searching and working peaceably wherever he might please. Under this, having obtained possession of a tract of land on the western bank of the Mississippi, in 1796, upon his application, a grant of seven leagues on this bank by a depth of three, was made to him by the governor general of Louisiana. He retained possession of this grant up to the time of his death in 1809, working and proving his mine thereon. When under the treaty of September 21st, 1832, the Indians evacuated that part of the country, the heirs of Dubuque resumed his grant, and commenced on it large improvements. The United States, however, claiming this land by virtue of a subsequent purchase from the Indians, the next year forcibly ejected the settlers by military power. The claimants, however, under the Dubuque grant, still insist upon their title, but as no court exists having jurisdiction to determine the matter, they have been urging their appeal before congress for redress, thus far without success.

The great portion of the Upper Mississippi lead region, being in fact the great lead region of North America, lies chiefly in the present territory of Wisconsin. A small part of it, however, lies in Iowa, along the bank of the Mississippi, and embracing most of the Dubuque claim, and a part also, embracing about ten townships, in the northwest corner of Illinois. The whole region contains about eighty townships, or 2880 square miles. Its extreme length from east to west is 87 miles, and its greatest width from north to south, 44 miles.

Our government, after the purchase of Louisiana, and the acquisition by treaty with the Indians occupying it, of the territory east of the Mississippi and between the Illinois and Wisconsin rivers, in the expectation of deriving great profits from the mineral lands embraced within this newly acquired country, passed laws, reserving them from sale. Authority, however, was given to the president to lease any lead mine that had been or might be hereafter discovered, for a term not exceeding five years. No leases were granted till the year 1822. In consequence of the defects of the leasing system adopted, and the expenses attendant upon it, the United States derived very little if any benefit from farming out their mineral lands. In 24 years from the period of granting the first leases, the whole amount of rent received was, in lead, 5,545,729 pounds, and in money, in lieu of of lead, $5,531 18. Estimating the rent lead at $2 50 per hundred, and we have as its value, $139,643 22. Add to this the amount of money received in lieu of lead, and the total amount of receipts for rent is $145,174 40. The expenses attendant upon this leasing during the same period, were $68,454 50, leaving a balance in favor of the United States, of $76,709 90, equivalent to

an annual product of $3,196 24, or the interest at 6 per cent. on $53,284. During the latter part of the period, however, the expenses of this leasing system actually exceeded the receipts by about three-fourths of their amount. The policy adopted in regard to the mineral lands having resulted in no practical benefits to the government, and many evils and much dissatisfaction having grown out of it, at length, in 1846, after repeated efforts, a law was passed, directing the president to make sale of those that had been reserved in Illinois, Wisconsin and Iowa. In the spring of 1847, sales were made, and the titles having now become quieted, and the interests made certain and permanent, there would seem to be no check upon the prosperity of this region of country. From a table exhibiting the amount of lead shipped from the several points on the Upper Mississippi for the last seven years, and the estimated value, we gather the following results:

Year.	No. pigs of 70 lbs. each.	Estimated value.
1841	463,414	$982,342 90
1842	473,699	787,892 08
1843	584,131 at $2 37½	971,117 78
1844	634,601 at 2 82½	1,254,923 47
1845	788,460 at 3 00	1,655,766 00
1846	752,403 at 2 90	1,526,058 08
1847	787,656 at 3 00	1,654,077 60
Tot. value produced in 7 years,		8,832,177 91
This is an annual average of		1,261,739 70

This is a large product from a region embracing only 2,880 square miles, and yet it is said that its richness has but begun to be developed.

Conway Tubular Bridge.

There has been much interest felt in the completion of Mr. Stephenson's gigantic tubular bridges at Conway, and over the Menai strait, on the Chester and Holyhead railway, and therefore we presume the following account of placing the first tube in a position to be elevated, will be read with pleasure. It shows what *mind* and *capital* can accomplish.

We take the description from the Railway Chronicle of 18th March.

The following details of the achievement of raising the tubular bridge at Conway, although they will probably appear in Mr. R. Stephenson's next report to the directors, deserve immediate notice, from their highly interesting character:—"In sight of a large concourse of people, covering the whole space of the suspension bridge, the towns and walls of the noble old castle, and the fields in the back ground of the spot on which it was built, the wonderful effort of science, the tube bridge, was floated at 11 a.m. on the 6th inst., and moved from the piles and stays on which it was constructed, and fairly brought into the tide way of the Conway, while its flood tide was running at the rate of at least two miles per hour. It appeared to float with the greatest ease, and not immersing the six pontoons on which it rested, (three at either end,) to within at least three feet of their decks. The precautions taken by Capt. Claxton, R.N., to whose sole direction the transporting of this enormous mass was committed, were admirably contrived to keep the machine suspended over the fixed piers, to await, as it were, the decision of the engineer as to whether the perilous step of launching into the deep (for deep indeed is the river, 12 fathoms at low water,) should be proceeded with, or whether the valves should be lifted, and the tube dropped, as it were, again in place, upon its piers—many circumstances appearing to bear upon that determination; the strength of the current; the height to which the tide promised by its comparative rising; and the strength of the wind. At about 11 a.m., however, the tide appeared to slacken, and the resolution was formed, for all at once the chains and ropes were hove upon, and in 10 minutes it had passed that, the first rubicon—gradually but steadily it approached the site intended for it. Mr. Stephenson and Mr. Brunel accompanied Capt. Claxton, who, with his trumpet in hand, directed the proceedings. He used two figures, of large dimensions, No. 1 and 2; when the red side was shown of the former number, a capstan fixed on the road from Conway to the tube works was hove upon; when the white side was shown, the heaving stopped, and a similar operation with No. 2 governed the operations of a powerful capstan (lent by the admiralty,) fixed on the railway on the Chester side, with its rope made fast to the inside of the tube, on that end. In the pontoons, three enormous masses of timber, 95 feet long by 25 feet wide, and 8 feet deep, bound together by powerful crabs, worked by 44 men, hove upon the chains, which had previously been tightened up by a large crab, at which a dozen or more men strained with their utmost efforts at either end on shore, one end of each chain being fixed at the piers of the suspension bridge, while the other ends were fast to the aforesaid crabs, on the opposite side of the river: on these chains the pontoons appeared to traverse. The western, or Conway end was pointed first, but did not come quite home afterwards. The eastern, or Chester end was dropped in after, or while the ebb was making; but before it reached by about a dozen feet the exact berth, it took the mason work, and no effort could disengage it. Nevertheless, it was over its bed sufficiently to be landed and bedded up with timber previously prepared from a lower bed, which had been provided in case the tide should fall before the upper bed could be reached. The most extraordinary efforts were made with screws and tackles, no less than four of which latter were at one time applied, besides the Chester side crab, manned by 60 people, while the tide was falling, to overcome the obstacle; but they appeared to be ineffectual, and Capt. Claxton was heard to give orders for bedding up, which was speedily accomplished. The barges were then sunk a little, and the noble fabric rested very near the hydraulic presses which are to be used in raising it. Cheers were then given for the Conway bridge, for Mr. Stephenson, and Capt. Claxton, and heartily responded to by the masses lining the suspension bridge and the castle walls. Three steamers were in attendance below the bridge, two full of company, and a great number of boats plied with their freight on the river. A band of music, playing enlivening airs, followed by a dense crowd, marched from one end to the other on the top of the tube, which was but lightly thinned before sunset. The way in which, in a tide way never really still, this enormous structure was placed upon its bed, reflects the greatest credit on all concerned, down to the lowest laborers. All seemed to be actuated by the liveliest desire for success. Eighty men were in each set of pontoons—one set commanded by Capt. Dunce, R.N., an assistant of Mr. Brunel, and the other set by Lieut. Blatchley, R.N., the crews under them performing the principal work, being sailors from the Home, of Liverpool. In the tube, attending the hawsers, were the officers and some of the crew of *Great Britain*, the latter prisoners in Dundrum Bay. On the top, on the Conway side, Mr. Fairbairn, of Manchester, had the direction; and on the Chester side, Lieut. Glenny, R.N. The great difficulty to be overcome was apparent—the small space to play in—for on the Conway side it wants 9 inches, by actual admeasurement, of being home, or in place; while on the Chester side, it is fairly jambed against the masonry—so that in fact there were barely 9 inches free in 400 feet. No sooner had the tide fallen sufficiently than the obstacle to the exact fixing in position became apparent to all. The inner pontoon was butting at its end against, and partly upon a rock. It took the ground which had been blasted away from the solid rock in consequence of having got a little twisted previously to starting, we were assured, full 4 feet. The Menai tubes are progressing, under the superintendence of Mr. E. Clark, assistant to Mr. Stephenson, who most unfortunately lost the great toe of his right foot one day last week. The second Conway tube is in progress. The *Manchester Guardian* states that it was not until the 11th that the tube was again floated by the pontoons, and was finally placed with its two ends resting upon the shelves of masonry constructed to receive it, prior to its being raised to the elevation at which it is intended to be ultimately placed, and which will be about 15 or 16 feet above the level of the shelves on which it now rests. The lifting of this enormous mass of iron, which weighs about 1,300 tons, is intended to be effected by two hydraulic presses, with 18 inch rams, and pumps ⅜ of an inch diameter. These pumps are to be worked by steam engines, which will give a pressure equal to 3 tons on the circular inch, or a total lifting power for each press of 972 tons, which, of course, will be amply sufficient for the purpose. Each press has a lift of 6 feet; and, as the ends of the tube rise, the masonry which is intended to support them will be carried up from the shelves on which they now rest.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.

ROBERT NICHOLS, Agent,
No. 79 Water St., New York.

26tf

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accuracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
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Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.

April 22, 1848. 1y*17

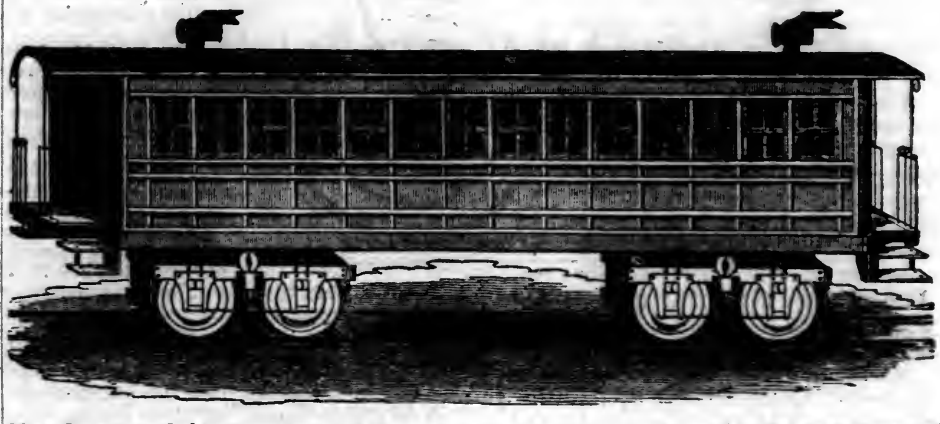
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James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
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J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
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DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

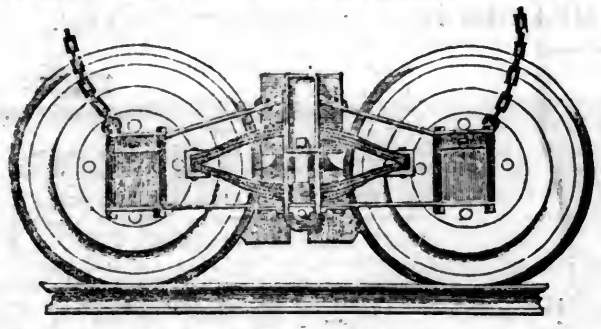
THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
17 Burling Slip, New York.
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RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIber having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

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PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER,

and

ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE, 142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats; Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

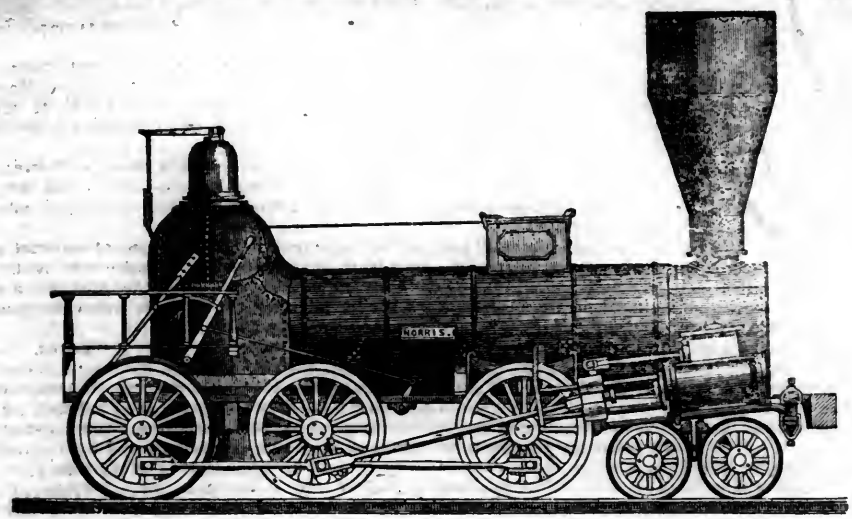
General Agent,

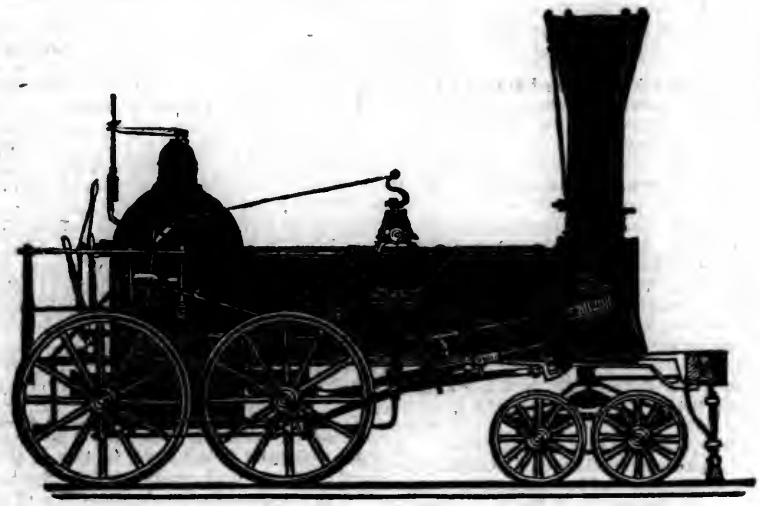
Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

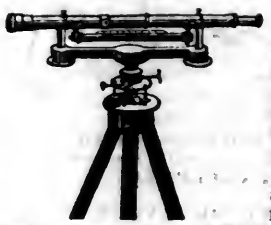
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y•21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*.

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.

January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufacture! and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington. Philadelphia Co., }
March 12, 1848. } 11tf

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

5tf DAVID S. IVES Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11¼ a.m., 2½, 4½ and 5¼ p.m.

For Reading 7, 8¼ & 11¼ a.m., 2½, 4½, 5¼, 6¼ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4¼ p.m.

From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m.

From Reading at 6, 7½, 9¼, 11¼ a.m., 1½, 4, 7¼, 9¼ p.m.

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12¼ 2½, 5½, 7, 10 p.m.

Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Havmarket Square.

CHAS. MINOT, *Super't.*

Boston, April 15, 1848.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelp'a.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.

Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00

Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.

C A. SEAD, Agent, 27 State street, Boston.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and ½p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

W. RAYMOND LEE, *Sup't.*

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1v J. W. STOWELL. Sup't

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.

Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, conncting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3 00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*

Savannah, Aug. 15th, 1846. 1y34

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon		$1 00
"	" " Xenia	1 50
"	" " Springfield	2 00
"	" " Columbus	4 00
"	" " Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery.....	40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1½ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 19] SATURDAY, MAY 6, 1848 [WHOLE No. 620, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, May 6, 1848.

Cast Steel.

We ask the attention of railroad companies, and others to the advertisement of the Messrs. Jessop, the celebrated manufacturers of cast steel.

WILLIAM JESSOP & SONS,

CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtis & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

DIRECT ACTION ENGINES

FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,

AND ALSO

THE ANNULAR RING PISTON ENGINES, of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

Iron Trade.

It appears that the report given in the English Journals some time since, of the suspension of operations in the Dowlais iron works, was not correct.

The following item from the Chronicle of March 25th, shows a depressed condition of the iron trade.

On the 21st of January last it was quoted, No. 1 at 50s. cash, and on the 17th March at 40s. as follows:

"*Glasgow, March* 17.—During the past week the rapid succession of events have all affected trade; and to-day the market for pig iron has been quite unsettled. A sale of a large parcel of No. 1, good brands, is reported at 40s., believed to be sold by a London house. In this state of matters we can give no certain quotation as to the price of to-day.

"The Dowlais iron works will continue in full force. The long pending dispute between the Marquis of Bute and the company, respecting the lease of the mineral commons, from which the works are supplied, has been settled, and a renewal of negotiations has led to an amicable arrangement of all differences. Dowlais and Merthyr depend almost entirely on the prosperity of the Dowlais iron works, which give immediate employment to (including coal miners and other out workers,) as many as 7,000 persons, and upon which, it has been ascertained, nearly 30,000 are dependent for their daily bread. Some arrangement has been come to between one or two of the leading coal owners and their work people, who have been for some time past standing out. The example will be probably followed, and it is to be hoped that all the "strikers" will then return to their work.

"Most of the works, says the *Birmingham Gazette*, where suspension did not arise from pecuniary embarrassments, are now again in partial operation; but in several instances, furnaces have been blown in, and the make of iron increased, under a premature expectation that railway and other orders would by this time be freely forthcoming. Such hopes have not been realized, and indeed they seem to have had no better foundation than predictions put forth by writers who trusted to the halcyon results of free-trade policy. The prevalent feeling of all parties seems to be a want of confidence, and desire to convert into cash, as if some convulsion were dreaded from the great and increasing number of hands out of employ. The make of Staffordshire iron has been reduced nearly one-half—trading without capital has been diminished—production without prospect of consumption has been checked—the infatuation of making sales at a ruinous loss, for the mere sake of doing business, has been met by a lesson that will not soon be forgotten—and various additional erections at an outlay repeatedly deprecated by us, are now abandoned. It is confidently stated that an importation of nearly 400 bars of railway iron has taken place by a vessel arrived from New York. This is one of several arrivals of the kind which have recently taken place from the United States."

There is no probability of our exporting *American* iron under present circumstances; that referred to as received from the United States, is only poor English iron returned.

The report for March 24th is a little better. It says:

"The money market improving somewhat, holds out a hope that pig iron prices will advance; the demand is good, and the shipments continue a fair average. Quotations are 43s. 6d. for No. 1, 42s. 6d. for mixed numbers, and 42s. for No. 3, cash."

Maudslay & Field's Patent Engines for Steamboats.

The extraordinary speed attained by steamboats driven with these engines is, we understand, attracting much attention at the present time, not only in England, but on the continent of Europe.

In a recent number, we gave an account of an experimental trip of the *Courier*, in which it was stated that the distance from Gravesend to Blackwall, 21 miles, was accomplished in 59 minutes, against a head wind, but with the tide in her favor; and the last number of the London Mechanics' Magazine, contains an account of a similar trip of the *Scotia*, in which this same 21 miles was done within the hour, "*against a strong tide and wind*;" but even this extraordinary speed, has been exceeded in France by two other boats, the *Success* and the *Express*, as we learn from the last Journal of the Franklin Institute, on the authority of the Baron Seguier, translated from a French work, that these two boats have made the trip from Havre to Bologne, a distance of 149 statute miles, in five hours; a speed through the water almost incredible, and far exceeding anything before recorded. All these boats are of iron, as we are informed, lugger rigged, and propelled by Morgan's improved feathering paddle wheels. The "Scotia" has the double cylinder engines, and the others the annular ring piston engines, of Messrs. Maudslay & Field. Such results as these speak for themselves, and we recommend our steamboat owners to look into the matter thoroughly and dispassionately. We should like to see a line of ocean steamers of this description, that the Cunard line may have more successful competition. We refer to the advertisement of the agent in another column, and also to the article referred to from the Journal of the Franklin Institute.

MASSACHUSETTS ANNUAL RAILROAD REPORTS.

To the Honorable the Legislature of the Commonwealth of Massachusetts;

The Directors of the Boston and Providence Railroad Corporation respectfully submit a report of their doing during the past year, as required by law.

Capital stock	$2,520,000 00
Increase of capital stock since last report	360,000 00
Capital paid in per last report	2,160,000 00
Capital paid in since last report	360,000 00
Total amount of capital stock paid in	2,520,000 00
Funded debt per last report	
Funded debt paid since last report	
Funded debt, increase of, since last report	
Total present amount of funded debt	Nothing.
Floating debt, per last report	
Floating debt paid since last report	
Floating debt, increase of, since last report	
Total present amount of floating debt	117,000 00
Total present amount of funded and floating debt	
Average rate of interest per annum on do	6 per cent.

COST OF ROAD AND EQUIPMENT.

For graduation and masonry, per last report	
For graduation and masonry paid during the year.	
Total amount expended for graduation and masonry	
For bridges, per last report	
For bridges, paid during the past year	
Total amount expended for bridges	
For superstructure including iron, per last report	
For superstructure, including iron, paid during the past year	
Total amount expended for superstructure, including iron	
For stations, buildings and fixtures, as per last report	
For stations, buildings and fixtures, paid during the past year	
Total amount expended for stations, buildings and fixtures	
For land, land damages and fences, per last report.	
For land, land damages and fences, paid during the past year	
Total amount expended for land, land damages and fences	
For locomotives, per last report	
For locomotives, paid during the past year	
Total amount expended for locomotives	
For passenger and baggage cars, per last report	
For passenger and baggage cars, paid during the year	
Total amount expended for passenger and baggage cars	
For merchandize cars, per last report	
For merchandize cars paid during the past year	
Total amount expended for merchandize cars	
For engineering and other expenses, per last report.	
For engineering, and other expenses, paid during the past year	
Total amount expended for engineering and other expenses	
[Cost of road and equipment, including Sekonk, Dedham and Pawtucket branch roads, as per last report	2,109,455 36
[Amount expended on road and equipment, including Pawtucket branch road during the past year.	435,259 69
Total cost of road and equipment, [including Sekonk, Dedham and Pawtucket branch roads]	2,544,715 05

CHARACTERISTICS OF ROAD.

Length of road	41 miles.
Length of single track	25¼ miles.
Length of double track	15¾ miles.
Length of branches owned by the company, stating whether they have a single or double track	6 6 miles. Single track.
Weight of rail per yard in main road	56 to 58 lbs.
Weight of rail per yard in branch roads	" Pawtucket br. 37½ lbs., Dedham br.
Maximum grade, with its length in main road	37½ ft. per m. for 26,700 ft.
Maximum grade, with its length in branch roads	Pawtucket br., 12·12 ft. per mile for 7200 feet. Dedham branch, 42·2 ft. per mile for 1200 ft.
Total rise and fall in main road	505·41 feet
Total rise and fall in branch roads	Pawtucket br., 67·52 ft Dedham br., 76·4 ft.
Shortest radius of curvature, with length of curve in main road	1910 ft. for 700 ft.
Shortest radius of curvature, with length of curve in branch roads	Paw., 1637 for 1657 ft. Ded., 900 for 1500 ft.
Total degrees of curvature in main road	312 deg. 12 min.
Total degrees of curvature in branch roads	Paw. 91, Ded. 129 deg.
Total length of straight line in main road	35¾ miles.
Total length of straight line in branches	Paw. 3·41—Ded. 1¾ miles.
Aggregate length of truss bridges	Track, 1884¼—Road, 257
Whole length of road unfinished on both sides	[5·6 feet.

DOINGS DURING THE YEAR.

Miles run by passenger trains	169,107
Miles run by freight trains	51,954
Miles run by other trains	5,200
Total miles run	226,361
Number of passengers carried in the cars	487,478
Number of passengers carried one mile	7,196,743
Number of tons of merchandise carried in the cars	87,605
Number of tons of merchandise carried one mile	1,937,027
Number of passengers carried one mile, to and from other roads	1,520,535
Number of tons carried one mile to and from other roads	780,942
Average rate of speed adopted for passenger trains, including stops	25 miles per hour.
Average rate of speed adopted for freight trains, including stops	12 miles per hour.
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile	5,749,439
Estimated weight of merchandise trains, including engine and tender, but not including freight, hauled one mile	4,133,848

EXPENDITURES FOR WORKING THE ROAD.

For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron	$14,279 16	
For repairs of truss bridges	1,477 25	
For renewals of iron, including laying down		
For wages of switchmen, gate keepers and flagmen	3,127 52	
For removing ice and snow	228 26	
For repairs of fences, gates, houses for flagmen, gate keepers, switchmen, tool houses	2,621 23	
Total for maintenance of way		21,733 42

MOTIVE POWERS.

For repairs of locomotives	10,808 46	
For new locomotives to cover depreciation	13,000 00	
For repairs of passenger cars	3,884 87	
For new passenger cars to cover depreciation		
For repairs of merchandise cars	4,862 70	
For new merchandise cars to cover depreciation		
For repairs of gravel and other cars		
Total for maintenance of motive power		32,556 03

MISCELLANEOUS.

For fuel and oil	43,714 30	
For salaries, wages and incidental expenses, chargeable to passenger department	23,364 22	
For salaries, wages and incidental expenses, chargeable to freight department	15,264 61	
For gratuities and damages	1,927 11	
For taxes and insurance	2,026 36	
For ferries	6,400 00	
For repairs of station buildings, aqueducts, fixtures, furniture	2,762 80	
For interest*	7,445 14	
For amount paid other companies, in tolls for passengers and freight carried on their roads, specifying each company		
For amount paid other companies as rent for use of their roads, specifying each company, [Boston & Providence]	8,160 00	
For salaries of president treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items	9,991 75	
[Total for Miscellaneous expenses]		121,056 29
[Total expenditure for working the road]		175,345 74

INCOME DURING THE YEAR.

For passengers:—	
1. On the main road exclusively, including branch owned by company	226,103 19
2. To and from other roads, specifying what:	
For freight:—	
1. On main road and branches owned by company.	118,172 79
2. To and from other connecting roads:	
For rents	10,034 27
For dividends on stock of Stoughton branch R. R.	1,200 00
For mails	6,268 50
For interest	1,649 52
Total income	363,328 27
Net earnings after deducting expenses	187,982 53

DIVIDENDS.

Two—one of 4, and one of 3½ per cent.	174,600 00
Surplus not divided	13,382 53
Surplus last year	102,238 82
Total surplus	115,621 35

* This sum includes, and principally consists of, interest paid to stockholders for the time elapsing between the payment of assessments and the time of issuing certificates of new stock.

The directors report the followins accideuts as having occurred during the year:

June 24th, J. G. Edwards, a passenger in steamboat train from New York, in attempting to jump on to the cars after the train had started from Mansfield, fell under the wheels, by which accident an arm was cut off.

September 2d, Patrick Dosrity, while walking on the railroad in a state of intoxication, was run over by a train and killed.

C. G. Warren, William Sturgis, William Appleton, James K. Mills—*Directors.*

Speed of Ocean Steamers.

Translated for the Journal of the Franklin Institute.

Baron Seguier states that he saw, when at Havre, two English steam packets, the Success and the Express, which made the trip from Havre to Bologne, which is 240 kilometres, (149 statute miles,) in five hours. These boats are very long, shaped like piroques, and carry their sails arranged in a new way, so that they can take advantage of the slightest wind, without losing the necessary stability of the vessel. Their engines are 350 horse power, built by Maudslay, on the annular system, which presents several advantages over the oscillating cylinders.—*Bull. de la Soc. Indust. Nat., Sept.*, 1847, *p.* 570.

Liability of Railroad Companies for Cattle Killed on the Track.

This is an important question to railroad companies, and it has been, in most cases, when tried in our courts, decided—and as we have *always* contended, *unjustly* decided—against the companies. It has appeared to us that, in some cases, when the people have *got* a railroad, which affords them many advantages and facilities, and which cannot; like a steamboat—if not successful, be transferred to some other line—they are disposed to exact more from it than from any other association, or interest.

The following decision of the supreme court of the State of New York is in accordance with our own views, and we commend it to the notice of our readers.

The following preface is by the publisher.

As this is a subject interesting alike to railroad stockholders, owners of cattle, and travellers, it is thought that the publication of a legal opinion pronounced in a case which has actually arisen, would be productive of advantage. The opinion referred to indicates great research, and its reasoning is marked with distinguished ability, and it may be the means of imparting legal information of practical utility.

A farmer in Gates had a yoke of oxen killed by a train of the Tonawanda railroad company. The oxen broke out of the enclosure of the farmer into the highway, and from the highway strayed upon the track of the railroad, and in the night were killed by a passing train. The farmer sued the railroad company before the Monroe Common Pleas for the value of the oxen that were killed, and recovered. From this judgment a writ of error was brought to the Supreme court of this State, which latter court reversed the judgment of the Common Pleas.

The following is the opinion given by the Supreme court in reversing the judgment of the court below:—

SUPREME COURT.

The Tonawanda Railroad Company, *vs.* Henry Munger. } *By the Court*, Beardsley, *Chief Justice.*

These oxen, when killed, were on the defendants' land. They had broken from the plaintiff's field into the highway, along which they wandered to the railroad, where, leaving the highway, they passed on the railroad to the place where the accident occurred.

Every unwarrantable entry by a person or his cattle, on the land of another, is a trespass; and that whether the land be enclosed or not. (Wells *vs.* Howell 19 John. 385: 1 Ch. Pl. Ed., 1837, p. 945: Brown on Actions at Law, 369) It is a general rule of the common law, that the owner of cattle is bound, at his peril, to keep them off the land of other persons: and he cannot justify or excuse such an entry by showing that the land was unfenced Fences were designed to keep one's own cattle at home, and not to guard against the intrusions of those belonging to other people. (Gale and Whatley's Law of Easements, 297: Rush *vs.* Lord, 6 Mass., 94: Dyer 372, pl. 10: 1 Cow., 79 note.) There may be exceptions to the rule stated, growing out of a necessity, all but irresistible, in peculiar exigencies—as where cattle driven along a highway, stray from it in sight of the person in charge of them, and pass, against his will, on to uninclosed land adjoining the highway, he making fresh suit to bring them back, for, in such case, the owner ought not to be chargeable for this involuntary trespass upon the land; nor for the herbage the cattle may crop, *raptim et sparsim*, as they go along. (1 Cow. 87 note: Com. Dig. Trespass, D: Stackpole *vs.* Hawley, 16 Mass. 35: 1 Arch. n. p. 358: Fitz. N. B. 298, note) But there is no occasion to dwell upon this, or any other common law exception, to this rule; for none of them afford them any legal justification or excuse for the entry of these oxen upon the land of the defendants. Nor, indeed, was it suggested on the argument that by the common law the entry was anything short of trespass; although it was urged not to be so under the revised statutes. By the statute (1 R. S. 353, art. 4) it may be made the duty of owners of adjoining lands to build and maintain certain parts of the division fences. The like obligation may also be imposed by contract or prescription, which presupposes an original contract: and where the duty exists and has beeen violated, the law will give no redress to the party in fault for the damages sustained by him in consequence of a defect in that part of the the fence he was bound to make or repair. (1 Ch. Pl. 544: 2 Saund. 285, (4) 1 Cow. 79, note: Shepherd *vs.* Hess, 12 John, 433.) An act passed in 1838 (laws of 1838, p. 253,) declares that "if any person liable to contribute to the erection, or reparation, of a division fence, shall neglect or refuse to make and maintain his proportion of such fence, or shall permit the same to be out of repair, *he shall not be allowed to have and maintain any action for damages incurred.*" This created no new rule, but merely affirmed a well settled principle of the common law, forbidding a recovery in any case for damages which the negligence or positive misfeasance of the party complaining contributed to bring on himself. We shall have occasion further to advert to this principle; but at present it may be observed that no question as to division fences is involved in this case; for these oxen escaped directly from the plaintiff's field into the highway, and from which they passed on to the land of the defendants.

Where a prescriptive obligation rests on the owner of land adjoining a highway to fence against cattle lawfully therein, he cannot maintain trespass for any entry by such cattle, through a defect in his fence. This is well settled. But it is not pretended that any such prescriptive duty rested on these defendants. On the argument the case was placed on the ground that the statute required them to fence against cattle running at large in the highway; and that is the precise point to be considered.

A section of the revised statutes declares that "the electors of each town shall have power at their annual town meeting to make rules and regulations for ascertaining the sufficiency of all fences in such town: for determining the manner in which cattle, horses, and sheep, shall be permitted to go at large on highways; and for impounding animals;" (1 R. S. 341 §5 sub. 11;) and by a subsequent section, (p. 355, §44.) "whenever the electors of any town shall have made any rule or regulation prescribing what shall be deemed sufficient fence in such town, any person who shall thereafter neglect to keep a fence according to such rule or regulation, shall be precluded from recovering compensation, in any manner, for damages done by any beast lawfully going at large on the highway, that may enter on any lands of such person, not fenced in conformity to the said rule or regulation; or for entering thro' any defective fence."

The last section of the statute, it will be noticed, applies only where the town has prescribed "*what shall be deemed a sufficient fence;*" and where the beasts were "*lawfully running at large on the highway*"

In 1835, the town of Gates, where those oxen were killed, made regulations that cattle might "*run at large*," and "that all fences in said town shall be four feet and a half high, and well filled in; and that all persons in said town should fence their land with such fence."

Now let it be conceded that these regulations were in as full force when this casualty occurred, in 1843, as when made, in 1835. I still do not see that they can at all aid the plaintiff. In the first place, that part of them requiring lands to be fenced is wholly inapplicable to such land as is used for the track of a railroad, where it intersects a highway. In terms the regulations declare that all land shall be fenced by fences four feet and a half high, and well filled in—a provision which we cannot suppose was ever designed to have any application to the site of a railroad where it crosses a highway. It would be absurd to require fences to be made at such places; and the more *general terms* of a town regulation should receive a more rational interpretation. To avoid giving a grossly absurd meaning to a statute or regu-

lation, we should not only look at all its words; but, if need be, should understand them in their most rigorous sense.

Looking at this regulation, then, we shall see that literally none but "*persons in said towns*" are required thus to fence their lands. The word "*persons*," doubtless may, and in some instances should, be understood to mean corporations, which are legal persons; but, as here used, it can have no such meaning. The persons referred to in the regulation must be "*in said town*"—words which in no just sense can be applied to the railroad corporation.

But, of themselves, town regulations, however explicit, can have no effect upon the particular question now under consideration. If violated, they would neither justify nor excuse an entry on the track of a railroad; nor could they deprive its owners of the right to maintain an action of trespass for the entry. Town regulations have for these purposes no intrinsic vigor or authority, and are only made efficient by the forty-fourth section of the statute, which has already been set forth at large. That section precludes a recovery, by any person who shall neglect to keep a fence according to the rules prescribed by the town, for damages done by beasts "lawfully going at large on the highway, that may enter on any lands of said person, not fenced in conformity to the said rule."

This section, in its terms and spirit, seems applicable to such lands as usually are fenced, or which are capable of being used in that condition. But this cannot be done with the track of a railway. No one ever supposed that such a strip of land should be surrounded in its whole extent by a fence, or that a fence could be maintained across a railway at every intersection of a highway. It is not too much to say that this would be wholly impracticable, without defeating the great object—accelerated speed—for which railroads are allowed to be constructed. The general terms of a statute declaring what consequences shall follow a refusal or neglect to fence land in conformity with town regulations, especially a statute passed, as the one in question was, years before a railroad had been made on this continent, cannot reasonably be understood to have any application to land occupied as the track of such a road. If the legislature had intended to confer on the several towns through which railroads might be constructed, the requisite powers to compel the owners of such roads to guard against the entry of cattle thereon from the highway, we have a right to believe that the powers would have been in very explicit and unambiguous terms; and that no town in the exercise of such a power would have made regulations at all like those in evidence in this case. A fence four feet and a half high is by no means adapted to the object; altho' a ditch, impassable by cattle, may be readily cut on each side of a highway where intersected by a railroad, and which would in no degree interfere with the movement of a railroad train. Something like this, which would be an effectual guard against cattle at such places, would seem to be but reasonable as between the owners of railroads and the owners of cattle passing upon or casually at large upon the highway; while it is imperiously demanded, with a view to the safety of passengers and property on the railroad trains. This, however, is foreign to the case in hand. The legislature has not yet authorized towns to require that ditches shall be cut; nor did the town of Gates assume to exercise any such power. The regulations called for fences, not ditches; and neither that nor the section of the statute to which reference has been made, can be held applicable to land at a railroad crossing. Obviously neither was designed for land used as the track of a railroad.

These town regulations and the statute cannot therefore excuse the entry of these oxen upon the land of the defendants; nor are they thereby precluded from recovering their damages for this entry. There was nothing to change the rule of the common law, which requires the owner of cattle to keep them off the land of all other persons. The entry was made without authority or excuse, and was consequently a trespass on the defendants.

There is another view of this part of the case, leading to the same result. If these oxen were not "lawfully going at large on the highways," (§44 *Supra*,) their entrance on the defendants' land could not be excused by the want or defect of fences. The oxen were not in the highway for the ordinary purpose of travel in passing from one place to another; but, having broke out of the plaintiff's field, where literally "*at large*" for grazing, rest, or mischief, as their wants or instincts might prompt. This, in my judgment, was far enough from "lawfully going at large" in a highway, notwithstanding the legislature has declared that towns may determine the times and manner in which cattle, horses, and sheep, shall be permitted to go at large.—(§5 sub. 11 *Supra*.)

The public interest in a highway comprehends the right of every individual to pass and repass upon it in person, and with his property, at his own pleasure; but confers no right to use it as a sheep walk or pasture ground for cattle. Subject to this right of passage, and the right to make repairs and the like, the soil of a highway, and the grass and herbage growing thereon are still, in the strictest sense, private property. (1 Cow. 88 note; 2 Smith's Lead. Ca. Phil. Ed. 94—99, notes: 3 Kent 432—434.) Cattle at large in the highway will not only trample down, but also cut and eat the herbage there growing; and if the legislature has power to authorize their running at large, the grazing cannot be unlawful. What would this be but taking the private property of the owner of the land, and transferring it to the owner of the cattle? In my judgment, the legislature has no such power, whether compensation be made or not; but certainly in no case unless compensation is made. On this second ground, I think the town regulation assuming to authorize cattle to "*run at large*," was wholly void. But it is not my purpose further to discuss the question; and I will only refer to cases and books which, in my view, sustain what I have stated. (Stackpole *vs.* Healey, *Supra*: Halladay *vs.* Marsh, 3 Wen., 142: 1 Cow. 88 note: Faryle *vs.* Porter, 4 Hill, 140.) On this second ground, therefore, as well as on the first stated, my conclusion is that these oxen, when killed, were trespassing on the defendants' land.

The present action is founded on the alleged negligence of the agents and servants of the defendant's in running their engine on the railway, whereby, as is charged, the plaintiff's oxen were killed. It is not pretended the action was done designedly by the persons in charge—but simply that it occurred through their negligence, and want of care.

It is a well settled rule of law that such an action cannot be sustained if the wrongful act of the plaintiff co-operated with the misconduct of the defendants or their servants to produce the damage sustained. I do not mean that the co-operating act of the plaintiff must be wrong in intention to call for the application of this principle: for such is not the law. The act may have been one of mere negligence on his part; still he cannot recover. Or his beast, while trespassing on the land of another—and that without the consent or knowledge of its owner—may have been damnified through some carelessness of the owner of the land; yet the fact of such trespass constitutes a decisive obstacle to any recovery of damages for such injury. It is, strictly speaking, *damnum abs que injuria*.

The case of Blythe *vs.* Topham, (Cro. Jac. 158,) was an action for digging a pit in a common, by occasion whereof the plaintiff's mare, *straying there*, fell into the pit and was killed. It was held by the whole court that the action would not lie: the plaintiff had no right in the common—and so, as against him, the digging of the pit was lawful. Precisely so in the present case. The plaintiff shows no right to have his oxen on the track of this railroad: for they were there straying. He therefore cannot set up that the engine was unfit for use, or was run in a negligent manner.

Bush *vs* Brainard, (1 Cow. 78,) was in principle like that of Blythe *vs.* Topham. Some maple syrup had been left by the defendant in buckets in an open shed, on his own woodland. The plaintiff's cow came in the night and drank the syrup—which caused her death. It was agreed by the court "that although the defendant was guilty of gross negligence,"—"the plaintiff having no right to permit his cattle to go at large" on the defendant's land, could not recover.

Numerous other cases have been determined on the same principle. Larch *vs.* Blackburn, was an action brought to recover damages for an injury by the bite of a vicious dog kept by the defendant. The dog was chained in a yard in the rear of the defendant's house, near one of the passages leading to it, and through which the plaintiff was walking when the dog fell upon him. Chief Justice Tindal, in his charge to the jury, said, "The question will turn upon whether there

was a justifiable right to be on the spot." "If a man puts a dog in a garden walled all round, and a wrong-doer goes into the garden and is bitten, he cannot complain in a court of justice of that which was brought upon him by his own act." And in an action for injury done by a vicious bull, Chief Justice Best was not less explicit. "If the plaintiff," said he, "had gone where he had no right to go, that might have been an answer to this action; but the fact was not so. The plaintiff had a right to be where he was. He was in the pursuit of his ordinary business." (Blackman *vs.* Simmons, 4 C. and P. 138,) See also Brock *vs.* Copeland, (1 Esp. 203,) Howland *vs.* Vincent, (10 Metcalf, 371,) and Jordan *vs.* Crump, (8 M. and W. 782.)

Where that which is done by a party on his own land, if illegal and punishable as such—or, although not illegal, if it be an act which may probably endanger human life, as the setting of spring-guns—he may be responsible even to a voluntary trespasser for injuries there sustained. (Bird *vs.* Holbrook, 4 Bing, 628—Jordan *vs.* Crump, *Supra.*) But even in such a case, where the plaintiff had notice that deadly engines were placed in a wood, into which he, notwithstanding, entered and was severely wounded, it was held he could not maintain any action, having voluntarily brought the injury upon himself. (Scott *vs.* Wilkes, 3 B. and Ald. 304.)

One who complains of another's negligence, should himself be without fault. (Brownell *vs.* Flagler, 5 Hill, 282—Cook *vs.* The Champ. Trans. Co., 1 Denio, 99.) Where the plaintiff at the time of the alleged injury was trespassing on the defendant, or otherwise wrong in the particular act complained of, such delinquency alone, with very few exceptions, is a decisive answer to any claim for damages founded on the defendant's negligence.

Negligence is a violation of the obligation which enjoins care and caution in what we do. But this duty is relative: and where it has no existence between particular parties, there can be no such thing as negligence in the legal sense of the term. A man is under no obligation to be cautious and circumspect towards a wrong-doer. A horse straying in a field falls into a pit left open and unguarded. The owner of the animal cannot complain: for, as to all trespassers, the owner of the field had a right to leave the pit as he pleased; and they cannot impute any negligence to him. But injuries inflicted by design are not thus to be excused. A wrong-doer is not necessarily an out-law—but may justly complain of wanton and malicious mischief. Negligence, however, even when gross, is but an omission of duty. It is not designed an intentional mischief—although it may be cogent evidence of such an act. (Story on Bail, § 19—22: Gardner *vs.* Heartt, 3 Denio, 236.) Of the latter a trespasser may complain, although he cannot be allowed to do so in regard to the former.

In the present case the charge of the court was in several particulars erroneous.

As to passengers on this railroad, the defendants were certainly bound by the highest obligations of morality and law to run their engines and trains with the most scrupulous care and vigilance. It was also their duty to use every precaution against communicating fire to buildings or other property adjacent to the line of their road, or otherwise doing injury thereto. But they owed no such duty to this plaintiff in regard to his oxen when trespassing on their land. The suggestions of the court below on this part of the case would be very appropriate to a case between a passenger who had been injured through the negligence of an engineer or the conductor of a train: but had no proper bearing on the case then to be decided by the jury.

The court seem to have held that if the plaintiff's oxen escaped from his inclosure after the exercise of ordinary care and prudence in taking care of them, he was not responsible for their trespass on the defendant's land. This view of the law, we think, can not be sustained. The plaintiff was bound at his peril to keep his cattle at home, or at all events to keep them out of the defendant's close: and no degree of "care and prudence," if the cattle found their way onto the defendant's land, would excuse him. It would be a new feature in the law of trespass, if the owner of cattle could escape responsibility for their trespasses, by showing he had used "ordinary," or even extraordinary "care and prudence" to keep them from doing mischief.

There was manifest error in charging that the town regulation allowing cattle "to run at large" applied to railroads as well as highways, so that these oxen were not trespassing on the defendant's land. Railroads, although designed to subserve the public interest and convenience, are still not highways—but in strictness mere private property: and no town has any right to authorize cattle to enter on them.

The jury were told they might determine for themselves, and consequently decide the case on the point, whether running the cars at the rate of eight or nine miles an hour, was not of itself, an act of culpable negligence. If it had appeared that the road was ruinous, or the engine or cars unfit for use, it would have been right, where the plaintiff was at liberty to complain of a want of care, for the jury to say, whether eight or nine miles an hour was not, under such circumstances, evidence of gross negligence. But where the railway, engines, and cars, are in good condition, it would indeed be remarkable, if a rate of speed, not beyond half the usual rate of speed on the railways in this State, could be deemed such evidence as would authorize a jury to find the fact of negligence. Upon such a state of facts as I have supposed, the point should not be left to a jury: for the naked fact that the rate of speed was eight or nine miles an hour, would be wholly insufficient to authorize a verdict finding negligence on the part of the owners of the railway.

I am strongly inclined to the opinion that further legislation would be proper to guard against the entry of cattle on land used for the track of railways. The loss of property in this manner is of no trivial consequence: but the personal injuries thus inflicted, and the occasional loss of human life, demand that every practicable effort should be made to arrest such deplorable consequences.

The judgment below should be reversed—and a *Venire de novo* awarded.

Ordered accordingly.

(A Copy.) H. Denio, *State Reporter.*
pr. H. G. Bronson.

South Carolina Railroad Company.--Annual Report for 1847.

We have had some time in hand the annual report of this company—which we give in this number of the Journal. It will be seen by the last tabular statement that the number of passengers carried over this road in 1847 was 13,443 more than in 1846; and the receipts for freight in 1847 were $35,945 greater than in 1846, though the amount of cotton carried in the fall of 1847 was 62,833 bales *less* than in the fall of 1846.

The system adopted by this company of aiding in the construction of branches will by and bye contribute largely to its business.

The construction of the Camden branch is, we believe, under the charge of *John McRae*, Esq., as engineer, and we are gratified to learn that it is pushed on with spirit—as we are sure it will be thoroughly done under his supervision—and we hope to hear of its early completion, and successful operation.

A survey has also been made of a route from Columbia to Charlotte in North Carolina, by Theodore S. Garnet, Esq., a report upon which we have now before us. He says that a railroad can be constructed from Columbia to Charlotte, 108¼ miles, for $1,471,000, with grades not exceeding forty feet to the mile, passing through Winnsborough and near Chesterville.

We understand that the road as far as Winnsborough has been put under contract, on terms rather more favorable than the estimate which had been made by the engineer. It has been also determined to let out the whole line as far as Chester, as soon it can be located, and then proceed immediately with the survey and location of the remainder of the route to Charlotte. When completed to Charlotte, will the people of North Carolina allow it to stop there? or will they push it on north to Salisbury, Greensborough, and thence to Danville in Virginia? We shall see.

There has also been a considerable effort made in favor of another branch from Columbia to Greenville, in the north-western part of the State. This company was organized in May, 1847, and put forth an able appeal to the people of South Carolina, in favor of the work, and we trust that it has been successful. This is the way for the people of the south to open the way to market, and to render their lands valuable.

There is *one* important subject, however, to which the directors do not refer, it seems to us, with sufficient earnestness, we mean a *permanent depot, on the water. This must, eventually*, be accomplished, and therefore the sooner the better. It may be delayed—but it must be accomplished ultimately.

Report of the South Carolina Railroad Co.
Charleston, S. C., 8th Feb., 1848.

The board of directors of the South Carolina railroad company regret that they are not able to present as favorabe a statement of the operations for 1847 as the business trans-

actions for the first six months of the year confidently encouraged.

In October last, a revulsion in the commercial relations between the United States and Great Britain, swept like a tornado over the land, paralyzing all the monied interchanges between our cities, and extending to the agricultural interests in the interior. Cotton, the great staple of the south, declined 5 cents per pound in value, and this with other connecting causes, suspended for a while all the transportation of produce, excepting such as was in transitu, and on which the railroad mostly relied at that season for revenue.

The effects of this derangement in trade cannot be more strongly presented than by the fact, that the freight lists exhibit 62,833 bales of cotton less than for the corresponding months of October, November, and December, of the present year, and $19,452 88 reduction in the monied receipts for the same period, which clearly shows that all of the deficiency was in down freights, while the up freight and passage had been reserved, but not to the augmented extent estimated, and on which, from more enlarged connections west, confidence had justly been reposed.

Notwithstanding these sudden and unlooked for events,

The gross receipts for the year am't to		$655,575 30
The current expenses to		303,480 40
And the net revenue to		352,094 90
(Being a fraction less than the ratio of 47 per cent. of expenditures to rec'ts.)		
From this revenue provision has been made for meeting annual interest on foreign debt	$108,461 77	
And payment of July div'd.	93,143 75	
		201,605 52
Leaving in reserve		150,489 38

Applicable to meet in part, obligations contracted in the construction of the Camden branch, and to permanent improvements on the track at depots, at workshops, and for increased locomotive and car power. These statements show an increase in the annual receipts, notwithstanding the deficiencies in the three last, and usually most busy months, of $66,491 05, and an increrse in the net revenue of $72,722 78 over the previous year of 1846.

All the defects in the original construction of the Hamburg road, the importance of a new and heavier iron rail, to be generally substituted for the lighter flange now on that line, the necessity of additional locomotive and car power to meet an expected increase of business, the just dissatisfaction which the deficiencies in these accommodations had occasionally given to the trade on which the company relied for patronage, the condition of the workshops requiring thorough reconstruction, with a view to security, and greater economy of expenditure in the management, have all been enforced on the consideration of the stockholders in the last and previous annual reports. The committee of stockholders received and confirmed at the last annual meeting, say, "Your committee concur in the policy of the course indicated in the report, of gradually substituting a heavier rail for the flange now in use upon the main trunk." And again, "Your committee are satisfied that the motive power of the road must be largely increased, and are gratified to find that the directors have taken the necessary steps for this purpose." Encouraged by this sanction of measures, with the necessity of which the board had been previously deeply impressed, without any provisions being furnished or recommended by the meeting, beyond what the credit and revenue of the company could afford to meet the necessary pecuniary obligations for these objects, and for those incurred in the construction of the Camden branch, engagements were entered into at an early period for additional motive and car power, and suitable arrangements made to be provided the present year to fulfil all the increased responsibilities of common carriers. In the performance of these there has as yet been no faultering. The daily and augmenting receipts on the road for the first 8 months of 1847, and the great facilities in the favorable condition of the money market for using the company's credit, enabled the direction to progress in all its operations, without apprehending or anticipating any inability, at the appropriate time of responding to what was due to the stockholders, as well as contractors. The very unexpected events, however, to which allusion has been made, greatly reducing a revenue which was confidently relied on, and suspending all ability of making the company's credit available beyond the satisfying of immediate and pressing monied engagements; left your direction no other alternative, than to decline dividing any portion of the profits from the business of the road for the last half year of 1847. In the expediency of this measure, the members of the board who were present unanimously concurred, and others who could not attend did so by letter. The stockholders, it is confidently believed, will be the more reconciled to the wisdom of a policy, when, from the statements presented, they must be satisfied that the profits of the company have been large, and that they have been most advantageously appropriated to permanent objects, —improving the condition and capacity of the road for increased business, and future profits—all of which important improvements had previously met with their approbation, and were considered imperative in their accomplishment on the part of the direction.

During the last year, the expenditures incurred on the above permanent objects have been,—

1st.—For payment on Camden branch stock		$105,847 42
2d.—For additional machinery in workshops		880 00
3d.—For rail iron on Hamburg road		19,718 05
4th.—For additional locomotives		48,450 50
5th.—For lands and lots		20,189 88
6th.—For improvements of depots		2,478 03
7th.—For box, platform, stock, and baggage cars		56,334 00
8th.—For cost of machinery and materials, etc., on hand, and in progress of construction for new cars ordered		27,503 00
The whole amounting to		281,400 88

The company now have in service—

6 four wheel connected passenger locomotives, 1st class.
5 two wheel connected passenger locomotives, 2d and 3d class.
5 eight wheel freight locomotives, 1st class.
9 six " " 2d "
13 of old stock, two wheel and four wheel connected, 3d class.

The two wheel passenger locomotives are too light for our present trains, they can only aid at present as extras, and for freight, but will be found advantageously available on the Camden branch.

The stock of cars in use are,—
10 passenger cars in good order.
2 passenger cars in shops, repairing.
132 box burden cars, 8 wheel, old and new.
66 platform burden cars, 8 wheel, old and new.
6 stock burden cars, 8 wheel, old and new.
40 four wheel, old canvass cars.

256 total.

61 box and 24 platform, and 6 stock cars have been added this year, and of the 200 originally proposed to be built, 29 in addition are in progress, and very near completion. Two of the passenger cars and one baggage, were rebuilt entirely from old frames, but their cost was charged to current expenses, together with the cost of 3 new box and 6 new platform cars, to be substituted for as many old of the same class, which had got destroyed the last year. Strickly, the wooden work only, and which constitutes the least proportional cost of a car, should have been carried to that account; but, in estimating the current expenses—and providing for deterioration of perishable property, etc., it has been deemed the safest rule to err against the current expenditure, and to charge permanent improvements, or capital, with no item that is not legitimate. In the observance of this rule, we are persuaded the current expenses as reported in 1846, were burdened beyond what they were responsible for.

The policy of renewing the light flange with a heavier iron rail on the Hamburg road, recommended and approved by the stockholders, becomes daily more apparent. It has been found extremely difficult the last year to preserve the adjustment of the track, under the severe action of the heavy connected locomotives, with the speed our mail obligations impose. The iron at the butts yield to the pressure, and imbed in the timber, thus promoting rapid decay at those points, and involving heavy expense; as the rotting of a few feet requires the removal of the entire stock, and at the same time, before the decay is detected, increasing the hazard of locomotives departing from the track.

The experience of the present confirms that of previous years, and confirms a similar excess of unavoidable expenditure in preserving the good condition of the track on the Hamburg road, with an iron rail of but 27 pounds to the yard, and with a wooden stringer; contrasted with the cross-tie, and Columbia road and rail of 57 lbs. to the running yard, being as $369 to $157 50 to the

mile for this year. The difference in annual expense would pay half of the interest on the capital involved in the substitution of a new and heavier rail, without bringing into estimate the less injury which would be inflicted on the machinery, and the greater expedition, security, and satisfaction, with which the transactions on the road would be performed. During the last and previous years, the expenses on the Hamburg road have been considerably, and necessarily increased in lengthening many of the old turnouts, which were all too short for the longer trains of our first class locomotives, and in adding others at more convenient distances. Besides this, additional tracks have been required and constructed at both the Hamburg and Columbia depots, and new water stations established. The failure of water the last and previous seasons on many parts of the line, not only rendered this important, but will impose the necessity of other pump stations at more convenient distances, and promising a better supply of that indispensable element to steam.

The work shops, their dilapidated condition, the perishable and inflammable materials of which constructed, their dispersed and badly arranged localities for economy of supervision and management, and their inefficient and contracted accommodations for an increasing business and service, have long been subjects of deep solicitude to your direction, and have repeatedly been presented to the notice of the stockholders.

Other and more immediately pressing objects, and with means very limited, while the company's profits were annually expected to be divided. Your direction could not make any more progress in this important reform than in adding to permanent machinery to relieve labor, and in other preliminary measures to the accomplishment of the improvements contemplated.

A portion of the land on which the workshops are now erected, is on a lease approaching expiration, and as new and more suitable structures could not be placed on the same ground, without involving the removal of those existing, and to the entire derangement of the whole business of the road, a suitable site was secured the last year, and is enumerated in the property reported to be purchased. Some few other lots of land, and adjacent to the depot in Mary street, has been added to the accommodations necessary at that point. The subject of a permanent location for a depot, at the Charleston terminus, with appropriate buildings, and other accommodations, to discharge the increasing responsibilities of the company with more satisfaction than at present, and with relieved apprehensions for the future, is again presented to the serious consideration of the stockholders. Several of the lots within the existing enclosures are on lease, the expiration of which may subject this company to great embarrassment, if not imposition, and the existing buildings are not only built of perishable materials, but are becoming, by their contiguity to private habitations, daily more exposed to conflagration.

These depositories are likewise illy adapted to the existing, and constantly augmenting business of the road. The more extended communications, which have been opened with the grain-growing regions of the west, is introducing a large and new business in the domestic produce of the interior. Charleston is already beginning to receive her supplies of corn and other grains, with flour, etc., by railroad, which formerly came by water from other quarters. All these articles, which are enumerated in the tabular statements, whether for home consumption or transhipment, require more extended accommodations, and shelter for security, at the terminus. It would be more desirable to have these articles of interior production removed on arrival, to the depositories of consignees; but hitherto this has been found impracticable, and the company has been forced to resort to temporary expedients, which have invited the imputation of carelessness and neglect, to protect property confided to their care, rather than be exposed to the hazard of greater responsibilities.

It would be wise in this company to limit its transactions to its legitimate obligation as common carriers, and if a permanent depot was at once established and fixed, there is no doubt that private enterprise would relieve this corporation from many of the obligations now unavoidably incurred, and which it would be to its interest to avoid.

On the subject of the inclined plane, whether so to improve it by the addition of stationary power as to make it perform the service of the road, free from the expense and objections involved in the present management, or to incur the heavier outlay of reducing the grades and increasing the distance of road to be constructed and kept in proper repair, your board have taken no further action than what has been previously reported. The same causes, which have prevented the recommended and more permanent improvements to road track, workshops, and depots, at Charleston terminus, have compelled the direction to postpone, for the present, any additional pecuniary obligations for those objects, without some other resources than the revenue affords to meet them, are indicated by the stockholders.

All these advisable and recommended improvements on road, at depots, at workshops, and inclined plane, will involve the expenditure of additional capital; applications, however, which will find a profitable return in the enhanced value imparted to the existing property of the company. The location of the South Carolina railroad, it is admitted, is favorable, and the extended and reciprocal connections effected with the roads of a sister State, now by Georgia enterprise rapidly approximating to completion, together with those in progress in our own State, increase the obligations of this company, in consideration of their own as well as the interests of the public, so as to improve the condition of their road, and to give the satisfaction as common carriers which invariably ensures the most extended patronage.

All these reconstructions and improvements will involve the expenditure of a heavy outlay, which must either be extracted from the earnings of the company, and returned to the stockholders in the form of new stock, or from some other sources than a floating credit, which will be exempt from the influences of commercial revulsions, and be more easily controlled by the company. The direction submit all these subjects to the considerate judgment of the stockholders.

FARES AND FREIGHTS.

The subject of fares and freights continue, as they have often, to divide public opinion, and a tariff to regulate either with satisfaction to all the interests involved, seems almost as complicated as the one for revenue and protection, which has agitated congress. The direction has bestowed on the subject all the consideration which theory and practice has suggested. On freights, it is believed, no important modification can be made on the one as now classified, in which a just discrimination is endeavored to be preserved, according to what the article can bear, observing the rule in all instances, *to reduce on domestic produce of little value and general consumption* to the lowest remunerating rate. Fares for passengers is a more difficult subject of adjustment, and as it is one which seems to excite interest and inquiry in the community, it is brought to your notice for advice. The board in all their action on this subject, have admitted the principle, that low fares increase travel, but that increase of travel is only to be recommended to common carriers by a corresponding augmentation of revenue. In all localities, therefore, where a reduction of fare stimulates travel to the extent of an increase of revenue, there can be no disagreement as to the policy to be adopted. Experimenting on this basis, the fares on the South Carolina railroad have been successively reduced, and increased until settled down to the chartered rates of 5 cents per mile, as the one most approved in the judgment of a majority of the board, as combining the two elements, *greatest number* consistent with the largest *corresponding revenue.*

In all the experiments made on the South Carolina railroad, reduction of fare invariably increased numbers, but not to the extent of a corresponding increase of revenue; while the higher rates increased revenue; but produced the opposite result as to number of passengers. The chartered rates as now practised, seem to have accommodated the largest number with a corresponding increase of revenue.

The report made on the subject, and developing the facts and results, is herewith submitted, that the stockholders may decide on the advisability of a reduction, which, in its favorable results, is so experimental that the board were unwilling at a period when increased revenue was essential to meet the obligations for the improvements contemplated, to sanction or hazard. With a view to the accommodation of merchants and professional gentlemen who use the road frequently, and of families for recreation, a class of season and family tickets at an exceedingly low figure, has been established, and these

to a very limited extent, have operated favorably, but not in as great a degree for the interests of the company as was justly expected.

HISTORY.

A brief history of the South Carolina railroad, as now consolidated under one administration, the value of its property, and the extent of its liabilities, has been deemed advisable at this period of its operations. The stock of the L. C. and C. railroad company is exclusively represented in the Columbia branch. The immense subscription to that corporation, after the withdrawal of the N. Carolina and Tennessee contribution, and the amount for forfeitures, reduced shares, etc., has now declined to 34,800 shares, which, at the par, $75 paid in, is $2,610,000 00

The cost of the Columbia road was - - - - - 2,862,654 49

Showing an excess which was met - - - - - 252,654 49

from forfeitures and other sources than the stock paid in.

The Hamburg road was purchased by the L. C. and C. railroad company, and a debt under the endorsement, and guarantee of the State, was contracted for payment of the same, a premium of 25 per cent. on the par value of the stock was paid, and the entire cost of the road, including all the liabilities the purchasing company had to assume, amounted to - - $2,786,081 99

To which is now to be added a State obligation - - 178,223 66

Total cost of the road - 2,964,315 65

The property statement (No. 1,) of the S. Carolina railroad, shows an indebtedness of $2,799,562 41. In which has not been included the interest on the reduced stock debt to the State, for want of the comptroller's corrected statement, but on which $90,000 is claimed. This sum will increase the entire indebtedness of the South Carolina railroad company, into which the two original corporations are absorbed, to $2,889,562 41.

The entire value or cost of the two roads is.....		5,827,969 49
The stock represented in Columbia branch, 34,800 shares, at $75 each.....	2,610,000 00	
Indebtedness.....	2,889,562 41	
		5,499,562 41
Leaves an excess of.....		328,407 08
To which add expenditure for lots, land, improvement of depot, rail iron, motive power, and other permanent objects the last ten years...		208,490 29
Excess of value over original cost of property in roads.....		536,897 37

Two years since all that had been paid for what was then classed as permanent improvement in additional locomotives, cars, etc., were passed from property account to probable deterioration of the original stock on the road. The amount now estimated, therefore, and which is of very recent purchase, and a portion of it being in lots and lands, is very legitimately accounted for, as properly *adding to the cost and permanent value of the road.*

The gross indebtedness of the company amounts to.....		$2,889,562 41
Represented by a funded foreign debt, guaranteed by State, and redeemable in 1866, at 5 per cent. interest..	2,000,000 00	
Funded debt to State, growing out of reduced stock and Hamburg road debt, the interest being estimated, payable in 1866, at 5 per cent.....	527,010 00	
		2,527,010 00

Leaving a floating obligation of $352,552 41. —$300,000 of this amount is a cash, or note credit, obligation to the South-Western rail road bank, one of the co-partners in the concern. If we charge against this debt the amount of subscription paid for Camden branch, and represented in its stock, $105,847 42, it would leave but $246,704 99, now fairly chargeable to this floating note account. As this cash or note credit seems not to be understood out of doors, some explanation is deemed necessary. It originated in the liberal aid the bank afforded the company in its early extremities, in the completion of the Columbia road, and as it has not been convenient to liquidate it entirely, it has, by arrangement, been placed in the present form, and made during the season to rise and fall, with the greater or less unappropriated receipts of the road. The company deposits in bank, beyond what is necessary for current expenses, are carried to the debt of that note account, with a view of saving interest to the company, and the amount of loan near the close of a semi-annual operation on the road, where the profits are estimated and partially divided, is generally reduced to a very low figure. At the period of paying dividends, therefore, the amount of road profits to be divided, and which has been to the credit of the company on this note account, is withdrawn, and the company's original obligation to the bank is elevated at or near, but never exceeds its old standard, so as to occasion an increase of indebtedness; instead, therefore, of borrowing to pay dividends, the amount which otherwise would lay idle, and in reserve, is appropriated for the time to reduce the interest on a company's obligation, until called for. During the present year, that note obligation to bank was unavoidably raised, from the unexpected causes which have been detailed, to meet obligations on Camden branch, and for additional motive power, etc., and left nothing to be withdrawn for dividends, or more especially, the profits of the road for the last six months have been applied (without intending it, had other sources of means to meet obligations not failed,) in adding to the value of property on the road, promising more adequate returns in the future.

SINKING FUND.

The indebtedness of the company is $2,889,562 41.—$2,512,016 of the amount is funded at 5 per cent., and payable in 1866, and $352,552 41 is a floating, or bank obligation, to an institution connected with the railroad company.

The amount paid in on stock, represented by the company, is but $75 per share, leaving $25 on each share, which may be called in at any period deemed advisable. On the completion of the Camden branch, not less than 40,000 shares will be represented at $25 per share, for which each share is responsible, amounts to $1,000,000, and which deducted from the debt funded, leaves but $1,527,010, to be provided for by 1866. It would be very easy to calculate the annual amount of annuity at compound interest, which would extinguish the above debt before maturity of the bonds, and which sum might, no doubt, be easily appropriated from the annual revenue of the company hereafter.*

There is, however, another source which will be found more available in a year or two, not merely for the extinguishment of all the company's liabilities, but for objects of any permanent improvements, which the increasing business of the roads may impose. It is an increase of capital, authorized by our charter, or the reconverting the existing debt contracted for the purchase of the Hamburg road, into shares, that debt represented; whenever they can be disposed of at par, and the receiving the company's bonds in payment. The inducements of those holding the bonds, drawing but 5 per cent. interest, or which may be purchased at a discount, to exchange the same for a stock, capable of producing from 6 to 8 per cent., will be strong enough to convert the funds of the company into stock. These two operations, the call upon the stockholders at a more appropriate period, for the additional amount due on their shares, and the issuing new shares to be sold at par, or to be exchanged for the bonds of the funded debt, absorbing the same, seems so simple and practicable an operation, long before the debt can mature, that the board of directors think that the stockholders need have no apprehensions on the subject of a debt so easily controlled, and so plainly to be absorbed at the proper time.

CAMDEN BRANCH.

The construction of the Camden branch was an obligation imposed on the original charter to the South Carolina railroad company. The citizens of the eastern portion of our State were justly and exceedingly importunate on the subject. The company, however, was in debt to the State for a loan to the Hamburg road, and for reduced stock, to an amount exceeding $500,000, which was due, and which the comptroller had instructions to collect. The only resource to have met the same was either to have suspended dividends, or to endeavor, which at that period was impracticable, to fund it on time;—while this debt remained unprovided for, this company could not prudently engage in any new enterprises. The difficulties which interposed were all, however, reconciled by an agreement on the part of the State to fund this matured debt at the rate of 5 per ct. interest, payable in 1866; provided this company would undertake the construction of the Camden road; the citizens of the adjacent districts furnishing, in new stock, one half of the estimated cost. The conditions were ac-

* The interest being paid as now—$26,654 40, appropriated semi-annually, and bearing the same interest as the debt would extinguished, $1,500,000 in 18 years, being the period at which the principal falls due

ceeded to by all parties, and are now in progress of fulfilment.

This company has paid in her proportional subscription, $105,847 42, and has recently issued bonds at short dates, drawing 7 per ct. interest, to meet the balance of her obligations on this work.

The whole amount will be represented in the shares of the company, constituting the fund from which these bonds, as they mature, may be paid.

At the last annual meeting, the board reported the unexpected causes which had greatly retarded, though they did not suspend, the progress of the work through the Wateree swamp. The longest tressel work, (and of great elevation, to avoid the floods of the river,) in the United States, being nearly four miles in extent. The delays in winter, the only period when work could be performed in the swamp in security, threw that operation in the summer months, and when the requisite force could not be procured at any price, a protracted fall, and freedom from frost, added to these difficulties; but the board are happy to report that the swamp is now overcome, a lodgment has been made on the opposite bank of the Rubicon of past obstacles; and, that as the grading of the entire bed of the road is nearly completed, and the most ample provision made in advance, for all the materials and iron necessary, there can be no further serious obstacles opposed to the most rapid completion of that important feeder to the South Carolina railroad.

The board, in justice to the Bank of the State, feel called on to record in this report, an act of great liberality, and of vast importance to the credit of this company, by which that of South Carolina might be implicated.

The practice has been to remit by the October or November steamers the amount of the semi annual interest on foreign debt due on 1st January. The revulsion of England, and the derangement in all commercial credit, left this company with means at home, but with no commercial ability to provide for obligations abroad. Private bills were difficult to be procured, and however responsible the drawer might be esteemed to be at home, the alarming accounts from England did not afford the same security in the acceptors.

Application was made to all the banks dealing in foreign exchanges, but without success.

They would draw in no amounts, and at no rate. In this extremity the Bank of the State came forward, and, under guarantees with which its direction was satisfied, its credit abroad was interposed to protect the interest on our English debt, and with the punctuality which had characterised all of the previous foreign engagements of the company.

All of which is respectfully submitted by

JAMES GADSDEN, President.

The following named gentlemen were elected directors, and Col. James Gadsden was elected president:

Andrew Wallace, W. C. Dukes, F. H. Elmore, Joel Adams, John Bryce, Wade Hampton, S. Mowry, jr., Alexander Mazyck, I. M. Campbell, A. H. Boykin, Robert Martin, Robert Caldwell, Charles A. Magwood and Ker Boyce.

No. 1, is a Properly Statement of the South Carolina Railroad Company, December 31, 1847.

		Dr.
To stock—for $75 per share on 34,800 shares		$2,610,000 00
" Instalments forfeited		312,422 65
		2,922,422 65
" Surplus income		96,625 81
" Balance of indebtedness		2,799,562 41
		5,818,610 87
		Cr.
By purchase Charleston and Hamburg railroad, embracing road, machinery, etc		$2,714,377 50
" purchase of lands attached thereto.		59,741 30
" " negroes		11,963 19
		2,786,081 99
" construction of Columbia branch.		2,863,654 49
" lands purchased since Jan. 1844	$25,273 71	
" less to credit Aiken lands	35 75	
		25,237 96
" negroes purchased since Jan. 1844	800 00	
" less for one sold	300 00	
		500 00
" suspense account		8,490 00
" rail iron purchased		35,492 02
" improvement of depots		11,158 32
" " property including locomotives		78,887 99
" shares in the railroad		40 00
" amount due on pay rolls and bills not charged, but forming part of the balance of indebtedness per statement No. 2, Dec. 31, 1847		9,068 10
		5,818,610 87

No. 2 is a Statement of the Liabilities of the South Carolina Railwoad Company, and of the Assets applicable to their payment, Dec. 31, 1847.

To sterling bonds—foreign loan at five per cent interest	Dr. $2,000,000 00
" State of S. Car., bal. 6 per ct. loan.	258,786 54
" " loan of $100,000 with int.	178,223 60
" bills payable	356,322 68
" scrip new—amount in circulation.	121,296 00
" scrip old— " "	15,208 18
" pay rolls—amount due for wages.	11,452 17
" work done and articles furnished—sundry accounts	44,587 43
" officers of company—salaries due.	4,147 73
" coupons—interest on sterling	8,444 48
" stock of Camden branch: amount received in stock, $23,250	
" " " cash, 227,365	
	250,615 00
" contractors Camden br. due them	11,037 21
" arrears of dividend—bal. unpaid	686 75
" bank State S. Carolina—loan	34,222 23
" Ga. R.R.N.A. stage & steamer line: balance due this account	1,153 50
" Grimes & Covington, through tick-Tuscaloosa	1,454 00
" Nashville & Memphis—thro' tick.	167 38
" Montgomery stage line	3,917 28
" Georgia railroad transportation	1,342 50
" Decatur line	440 75
" Tuscaloosa line	172 00
" Nashville line	33 50
	3,303,710 91
	Cr.
By bills receivable	$7,861 24
" bonds receivable	43,606 00
	51,467 24
" cash	36,682 17
" J. King, jr.—balance due by agents	38,221 89
" postoffice depart.—transp. of mails	10,646 90
" rents & articles furnished—sundry accounts due company	5,051 20
" officers of company—for disbursem.	7,318 16
" Ga. R.R. & B. Co.—balauce due	1,441 67
" bank of Camden—on deposit	196 92
" Palmers, McKillup, Dent & Co.—over remitted	6,067 42

CAMDEN BRANCH

For amount expended in construction.

1. Grading	$65,228 00		
2. Timber for bridges and trestle work	31,984 25		
3. Building do	23,834 21		
4. Timber for track	15,033 99		
5. Iron and spikes	141,303 25		
6. Laying timber and iron	4,554 55		
7. Survey and superinten.	16,438 36		
8. Outfit	41,179 27		
9. Right of way	1,874 20		
10. Contingencies	1,624 85		
11. Depots & water stations	1,000 00		
		347,054 93	
Balance		2,799,562 41	
			3,303,710 91

No. 3 is a Statement of the Receipts and Expenditures of the South Carolina Railroad Company, for the year ending Dec. 31, 1847.

			Dr.
To freight		$387,634 00	
" passage		222,148 93	
" mails		40,050 01	
			$649,832 94
" oakwood sold	2,046 27		
" small package account	431 16		
" storage	1,018 12		
" negro wages	1,290 56		
" rent	530 75		
			5,316 86
" sales, negro 'June'	300 00		
" capital stock	5 00		
" cancelled dividends	120 50		
			425 50
" inc. of indebtedness in the past year.			34,471 67
			Cr.
By paid July dividend:			
On 34,800 shares S.C.R.R. Co., at $2 50.			$87,000 00
On 2,326 " Camden branch, 2 50.			5,815 00
On 263 " " 1 25.			328 75
			93,143 75
By paid for improvement of depots			2,478 03
" do. property, including 6 locomo.			48,450 50
" paid for lands			20,189 88
" " rail iron			19,718 05
" " interest on sterling bonds			108,461 77
" " ordinary current expenses, (exclusive of interest on State debt, of $258,786 54,) viz:			
In Road Department:			
Superintendence, wages, etc.	$34,368 99		
Building materials, including lumber for cars	8,949 89		
Timber	23,058 66		
Spikes	2,368 29		
Provision for negroes	8,358 62		
		77,104 45	
In Machinery Department:			
Machinery bought	36,986 14		
Materials	27,715 06		
Oil	3,543 06		
Tallow	3,271 37		
Duck	556 12		
Coal	2,055 61		
Wood	20,148 15		
Charleston workshops	67,934 07		
Aiken do	1,886 80		
		164,096 38	
In Transportation Department:			
Agents, clerks, laborers, etc.	80,496 99		
Crews of locomotives	34,633 83		
Inclined plane	3,658 11		
Provisions for mules and dogs	1,092 08		
Drayage	2,189 21		
		122,070 22	
In Contingencies:			
Salary of officers	6,615 83		
Exchange	377 15		
Interest [general]	18,233 59		
Damages, including 55 bales of cotton, burnt at Aiken—$1,736 01	4,067 28		
Negro clothing	259 75		
Office rent, stationary, etc.	4,780 34		
		34,333 94	
			690,046 97

Explanatory of No. 3.

Gross revenue from all sources		$655,575 30
Total expenditures—in road machinery, and transportation departments and contingencies	$397,604 99	
Deduct permanent expenditures, viz:		
For Camden br'ch	$9,407 69	
For additional machinery in workshops	880 00	
For cost of additional box, platform, & baggage cars	56,334 00	
For cost of materials & machinery on hand applicable for new cars, etc., ordered	27,502 00	
	94,124 59	
Current expenses		303,480 40
Net revenue for the year		352,094 90
Paid July dividend	93,143 75	
Interest on sterling bonds	108,461 77	
		201,605 52
Leaving, applicable to the permanent objects of: to-wit, improvement of depots, purchase of lands, new locomotives, & and rail iron: a balance of		150,489 38

The net income, $352,094 90, being on the cost of the Hamburg road, and the stock represented in the company, more than 6¼ per cent. for the year 1847.

Cost of Hamburg road	$2,786,081 99
Am't due State, to be vested in bonds.	178,223 66
	2,964,315 65
Stock represented in company by 34,000 shares, at $75	2,610,000 00
Total original cost of property of road	5,574,315 65

No. 4 is a Statement of the number of Passengers conveyed upon the Railroad between Charleston, Hamburg and Columbia, with the amount received for freight and passage, etc., during the year 1847.

	Passengers. No.	Amount.	Amount freight.	Total freight and passage.
Jan....	5,526..	$16,841 85..	$45,654 03..	$62,495 88
Feb...	5,182..	17,164 65..	39,987 52..	57,152 17
March	6,935..	26,208 75..	42,394 28..	68,603 03
April..	17,990..	21,034 51 .	39,931 44..	60,965 95
May...	5,344..	16,155 70..	25,910 14..	42,065 84
June...	4,755..	13,859 03..	16,931 35..	30,790 38
July...	4,259..	11,486 27..	13,975 54..	25,461 81
August	4,395..	12,583 89..	17,175 87..	29,759 75
Sept...	4,547..	15,509 03..	37,995 49..	52,601 52
Oct....	6,150..	20,594 52..	48,838 05..	69,432 57
Nov...	6,007..	19,533 33..	28,196 74..	47,730 06
Dec...	6,489..	17,633 80..	41,513 55..	49,177 35
Total..	77,579..	208,605 31..	387,634 00..	596,239 31
Income from through tickets sold by Geo. railroad company				13,543 62
Total freight and passage				609,782 93
Transportation of the mails				40,050 01
Negro wages, oak wood sold, and other sources				5,316 86
Sale of negro man 'June'				300 00
Capital stock			$5 00	
Cancelled dividends			120 50	125 50
Total income for the year 1847				655,575 30

No. 6 shows a comparative statement of the income of the South Carolina railroad, the number of bales of cotton, etc., conveyed to Charleston upon it, from the 1st of January, 1844, to the 31st of December, 1847, showing the up and down business separately, and the increase in certain articles of freight. We omit fractions.

PASSENGERS.

	Up. No.	Amount.	Down. No.	Amount.	Total amount.
1844....	39,364..	93,072..	24,782..	83,519..	176,591
1845....	30,591..	87,916..	26,194..	82,946..	170,862
1846....	34,181..	96,348..	29,955..	92,296..	189,644
1847....	43,945..	117,294..	33,634.	104,854..	222,148

FREIGHT, ETC.

	Up.	Down.	Amount. Total.	Mail am't.	Other sources.	Total am't.
1844.	163,788.	148,768.	312,547.	40,299.	3,431.	532,869
1845.	179,803.	162,513.	342,316.	30,254.	5,263.	558,697
1846.	172,290.	179,398.	351,689.	49,716.	7,999.	589,081
1847.	201,481.	186,152.	387,634.	40,050.	5,442.	656,275

	Bales cotton.	Bbls. flour.	Bushels grain.	Bbls. turpentine.	Average No. engines running.	Arrivals.	Departures.	No. miles run.
1844	186638	.....	.....	.....	17	974	990	310812
1845	197657.	.....	.....	.....	19	1098	1087	342135
1846	186271	12148	2369	48	19	1102	1109	345893
1847	134302	19013	3388	183	189	18	1848	1025 327539

SEA-WALLS—EFFECTS OF STORMS UPON.

The following paper upon *sea walls*, of which we give the following synopsis from the Railway Chronicle, was read before the Society of Civil Engineers, at their meeting on the 14th of March. It is of equal interest in this country as in England.

The paper read was "an account of the effect of the storm of the 6th of December, 1847, on four sea walls of different forms, on the coast near Edinburgh, as illustrating the principles of sea defences," by W. J. M. Rankine. The principal example given was the sea wall of the Leith branch of the Edinburgh and Dalkeith, finished in the year 1837, built by the author from Mr. Walker's designs.—Just after it was completed, a violent storm occurred, which injured almost every similar work within its range, but produced no ill effect upon that structure. On the 6th of December, 1847, a still more violent storm occurred which did great damage all around, but the railway wall still escaped without injury. The total length of the wall was 750 yards,; its height was 13½ feet above the breach at the highest point, diminishing to about 6 feet at the ends. The height of the top was 4 feet above equinoctial spring tide level. Its least thickness was 5 feet, and its greatest 10 feet; the back was vertical, but the face had an inclination at the lower part of 5 inches in the foot, gradually becoming curved as it rose upwards, until at the top it overhung slightly. The foundation course was composed of large flat stones, laid horizontally 4 feet below the surface of the beach upon a stratum of fine sand and gravel, firm when dry, but moveable when wet. The face was of hammer dressed ashlar, about 2 feet thick; the back of rubble, 18 inches thick. The interior was filled with concrete. The coping was composed of stones, each weighing about half a ton, connected by means of cast iron dowels. The stone used was Craiylieth sandstone. The face joints were laid in cement for a depth of 4 inches. The foundation was protected by a pitching of trap boulders, laid on the natural level of the beach. They were partially disturbed by the storm referred to, and the author ascribed this to their weight being insufficient to resist the vertical oscillation of the waves.

The second example was a vertical sea wall near Trinity, the foundation of which was protected by a dry stone bulwark sloping at angles of from 30 to 40 degrees. The wall was uninjured by the storm, but the pitching was breached at several points.

The third example was another wall near Trinity, of a hyperbolic section. The lower part had a slope built dry up to a little below high water mark. At this point there was a sharp curve, and the upper part was nearly vertical, and laid in mortar. The waves extracted the stones of the curved portion, and the upper part, being undermined, was destroyed to a great extent.

The last example was the bulwark of the Granton line, the lower part of which sloped at about 20 degrees; the upper portion was curved, and was covered by a heavy projecting string course and parapet. It was built dry, and the stones of the lower part weighed not less than half a ton each. This bulwark suffered damage to a slight extent in its upper portion. These examples were stated to confirm the following principles:

That the principal action of the waves in front of the sea wall was a vertical oscillation, produced by the combination of the direct and the reflected waves; that a sloping bulwark gave rise to a sloping oscillation, tending to overturn any portion which projected above the line of slope; that where the strength of a sea wall depended on the pressure of the superincumbent masonry, and the adhesion of mortar and cement, the position of greatest stability was vertical; and that when the strength depended on the weight of the individual stones, the position of greatest stability was a very flat slope. In the discussion that ensued instances were adduced of the duration of vertical walls under the attacks of heavy seas. and. on the other hand, of their destruction when flat slopes had effectually resisted the waves; and it was agreed that in this, as in other cases of engineering, no empirical rules should be laid down, but that the skill of the engineer should be exerted to adopt such forms of construction as were best adapted to the locality and the circumstances.

PENNSYLVANIA RAILROAD COMPANY. Notice to Contractors. Proposals will be received until Wednesday, the 17th day of May, at 10 o'clock A.M. at the Borough of Huntingdon, for the Grading and Masonry upon about 36 miles of the Pennsylvania Railroad, between Lewistown and Huntingdon, and also for the heavy work along the Little Juniata, including a large amount of Bridge Masonry.

Plans and specifications of the work can be seen at the above named place for five days previous to the time appointed for receiving the bids.

Any further information can be had upon application to Wm. B. Foster, Jr., Esq., Associate Engineer, at Lewistown. S. V. MERRICK, Pres't.

April 20, 1848. 4t17

BREESE & ELLIOTT, IMPORTERS OF— and dealers in—Iron and Steel, 245 Water st., New York. Railroad Tires furnished to order.

April 29, 1848. 1m18

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO., Philadelphia.
ROBERT NICHOLS, Agent, No. 79 Water St., New York.

26tf

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.

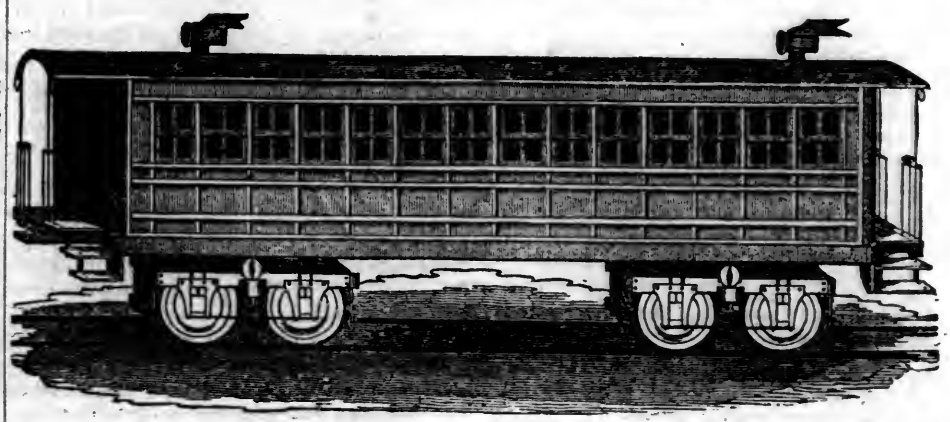
April 22, 1848. 1y*17

KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic o foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



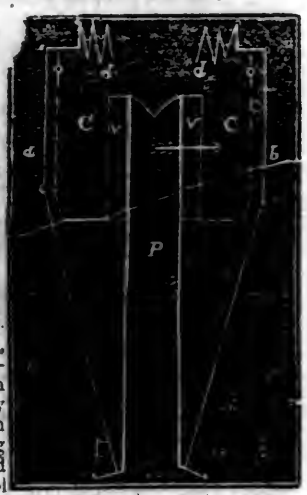
Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

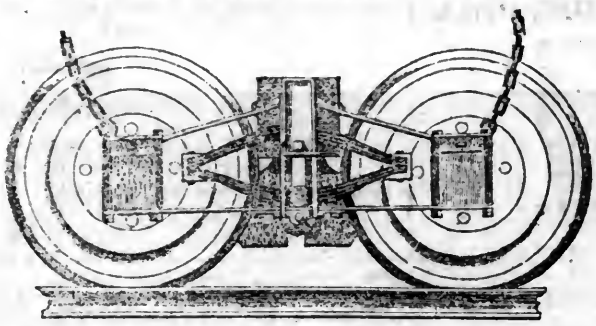
PETER COOPER,
17 Burling Slip, New York.
1y10

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2¼ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIber having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power

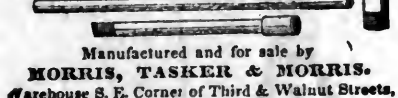
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TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja15 *Reading, Pa.*

RAILROAD SCALES.---THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ea barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 38 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames,* and on the line of the *Norwich and Worcester Railroad,* established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

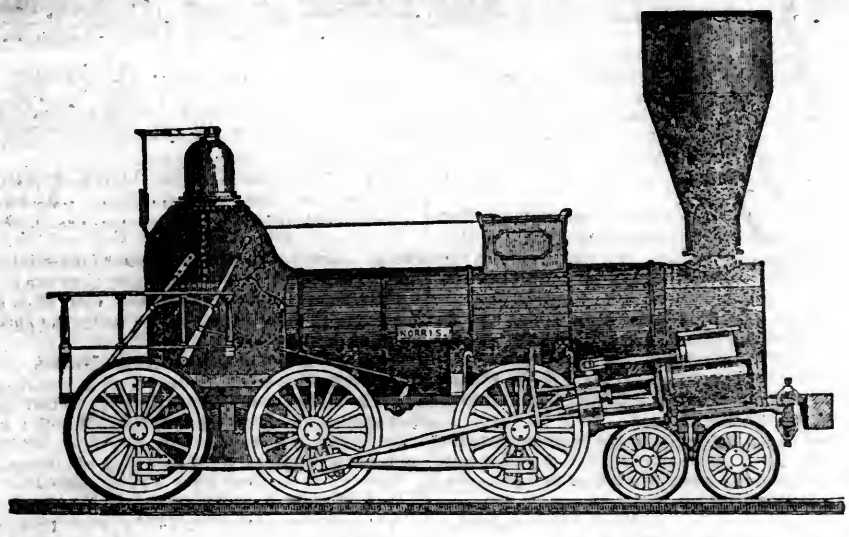
General Agent,

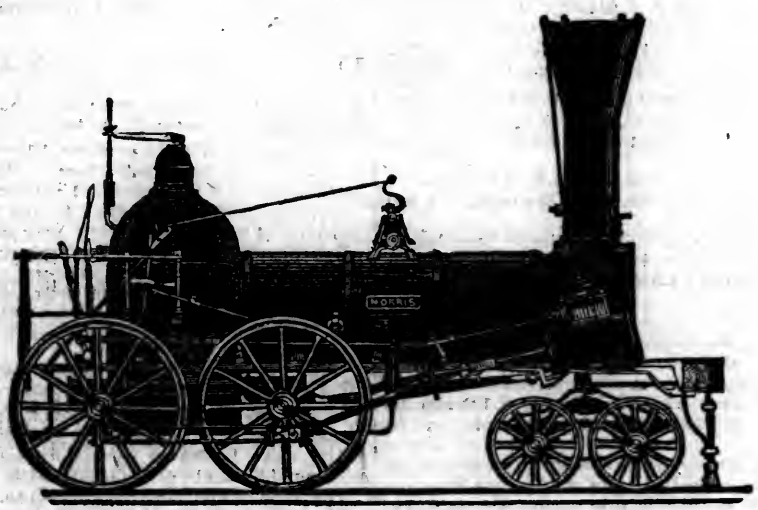
Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works.

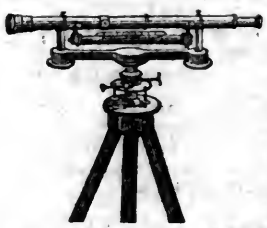
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja15

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.

January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tl

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington. Philadelphia Co., March 12, 1848. 11tf

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS. the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

5tf DAVID S. IVES Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5½ p.m.

For Reading 7, 8½ & 11½ a.m., 2½, 4½, 5½, 6½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4½ p.m.

From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m.

From Reading at 6, 7½, 9½, 11½ a.m., 1½, 4, 7½, 9½ p.m.

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.

Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, April 15, 1848.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelphia.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.

Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00

Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.

C A. SEAD, Agent, 27 State street, Boston.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and ½p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

W. RAYMOND LEE, *Sup't.*

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4¼ p. m. Leave Worcester, at 8¼ a. m., and 4¼ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2¼ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6¼ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

321y J W. STOWELL, Sup't

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6¼ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12¼ p.m. and	8 p.m.
Leaves York for Columbia at	1¼ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2 25 and	1 90
" Pottsville "	34	1 40 and	1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to	Lebanon	$1 00
" "	" Xenia	1 50
" "	" Springfield	2 00
" "	" Columbus	4 00
" "	" Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper. Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44-1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons..... $5 00 per hhd.
On molasses and oil..... $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
.y10 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Rail road, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 4 o'clock, P.M., and 12 midnight.

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G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

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1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

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1y48

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☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, May 13, 1848.

PENNSYLVANIA RAILROAD COMPANY. Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law. GEORGE V. BACON,
May 13—8t Treasurer.

"Look-out for the Engine while the Bell Rings."

It is surprising how anxious some people are for railroads—until they get them! They cannot say, or do, tc much to induce others to invest their money in the construction of railroads—to their town—past their door, if possible; but, when the outlay is made, the road and depots are constructed, and the anticipated advantages are derived by those who probably contributed least to the enterprise, then we often hear remarks similar to the following from the Worcester Palladium.

It is *equally* important, in our estimation, that the *people* should "look out for the engine," as the engineer "for the people." The obligation is *mutual*—and we trust that both will keep good watch, that accidents may be avoided. If we understand the matter, the railroad companies would much rather pass *a little one side*, than through the thickly settled part of Worcester, or most other large towns; but the trouble is, the town would come to, and soon surround, the depot if it were to be removed quite outside of what is now the town—therefore it would be of use, but for a little time, to remove the tracks, and depots, half a mile south of their present location. Yet the companies will be justified—if the corporation restrict their just rights, by vexatious ordinances in "looking out for the people"—in getting out of their way, at least half a mile, that they need take no thought of the engine "when the bell rings."

Should such be the result of this movement, it may, after a while, oblige the people of Worcester to "look out for" a coach to go to and from the depot. The editor of the Palladium says:

"*Look out for the Engine while the Bell Rings.*—This is the order of the railroad corporations to the people. It should be reversed; and the corporations be compelled to LOOK OUT FOR THE PEOPLE. Alderman Thomas has made the good move of an ordinance to regulate the running of engines and cars across the streets of Worcester. It should be passed at once and without delay; and then the *corporations* must look out for the *people*—and not the *people* for the *corporations*. Let such an ordinance be passed, and let every citizen see that it is enforced."

Revolving Apparatus for Clearing the Railway Track.

We have before us a drawing and specification of a revolving apparatus, for removing obstructions upon the track, by Mr. Samuel Streeter, of Detroit.

There are several different machines—first, for removing cattle, logs, or persons. This is to be done by the revolutions of a double conical cylinder, in front of the engine, with angular flanges, or wings, from the centre, and largest diameter to each end.—The revolutions are upward and forward, which tends to lift the obstruction, while the cone and wings tend to throw it off one side beyond the rail.

This apparatus is said, by the inventor, to answer for a *snow plough*, as well as *cow remover*; but there is also another, and distinct apparatus for that purpose, and still another for cutting ice and brushing it from the rails.

These parts of railroad machinery need improvement, and these may be improvements upon those now in use, and we therefore ask attention to the drawings, to be seen at our office, as we have not the means of giving a full description, which cannot be done without numerous engravings.

Railways and Real Estate.

The Leicestershire Mercury says that "freehold land is now freely selling on what is called Diss Common, for building purposes, at the rate of £700 per acre; which, before the railway, was barely worth the tillage."

Locomotive Lablache.

The Worcestershire Chronicle says that a new locomotive called "Lablache," in honor of the great buffo, and constructed by Messrs. Wilson, of Leeds, has already been performing some very remarkable feats on the Midland. We have been assured, on excellent engineering authority, that it has been running from Rugby to Leicester, with three carriages, at an average speed of 75 miles per hour. The same engine has taken a load of 400 tons at an average speed of 30 miles per hour.

Memorial to Congress.—Post Road to New York.

We give in this number a memorial to Congress, asking the construction of a post road between Philadelphia and New York. This memorial was prepared by an able hand, and submitted to a meeting of merchants of Philadelphia, who are deeply interested in having an *easy, rapid, frequent* and *cheap* communication between these two great cities, and who recommended its circulation for signatures and presentation to congress. It has been presented and refered to a committee of the senate, who now have it under consideration.

It is well known to our readers, and to those who have occasion to travel between this city and New York, that, in consequence of the peculiar privileges enjoyed by the Camden and Amboy railroad company, they have to pay very high rates of fare for passage, and extravagant rates for freight.

There is, indeed, no line of communication north of "Mason & Dixon's line"—and few south of it—where as high rates are charged, and this arises from the exclusive privileges granted by the New Jersey Legislature to a company of wealthy men, who appear to feel that, having *power*, they may disregard the rights of others, and grind the business, and travelling community, at all times, to suit their own purposes—and simply because the community cannot help itself.

We shall refer again, and at length, to this subject in our next, and subsequent numbers; making extracts from a pamphlet now before us, containing a series of *sixteen letters*, addressed to the people of New Jersey, by "a citizen of Burlington," who seems to have thoroughly investigated the doings of this gigantic moncpoly, as well as often to

have enjoyed the *comforts* and *facilities* of their system of management. His examinations and investigations appear to have been made with an eagle eye, and his expositions and animadversions with a bold and fearless hand.

If his allegations against the company are in the *hundredth* part correct—and we have no doubt of his general accuracy—then it is high time for the *people* of New Jersey to move in the matter; and if he is not justified by the facts, in what he has published, it is quite time for the company to put him to the proof of what he has alleged against them.

To the Senate and House of Representatives of the United States in Congress Assembled:

The Memorial of the Subscribers, Citizens of Philadelphia, Respectfully Showeth—

That, on the 31st day of March, 1832, the legislature of the State of New Jersey enacted a law relative to the Camden and Amboy railroad company, and the Delaware and Raritan canal company, by the second section of which it is provided, "That it shall not be lawful, at any time during the said railroad charter, to construct any other railroad or railroads in this State, without the consent of the said companies, which shall be intended or used for the transportation of passengers or merchandise between the cities of New York and Philadelphia, or to compete in business with the said railroad," thereby granting to those united companies a complete monopoly of the business of transporting passengers and merchandise on that important link in the chain of communication between the northern and southern portions of the Union.

That, in consideration of this and other grants, the said companies conveyed to the said State of New Jersey a large interest in their canal and railroads, and agreed, in addition thereto, to pay to the said State transit duties on all passengers and merchandise carried across the State, to wit: ten cents per head for all passengers, and fifteen cents for every ton of merchandise carried on the said railroads, and ten cents for every passenger, and eight cents for every ton of merchandise carried on said canal:

That, by several laws relative to the said companies, the passage money payable by travellers between the cities of New York and Philadelphia was limited to three dollars, as the maximum rate.

That on the 15th day of March, 1837, the legislature of the said State enacted another law, by virtue of which the said companies were authorized to charge the sum of four dollars for each passenger carried on any of the railroads of the said companies to and from the said cities by day, and five dollars by night, provided that they paid into the treasury of the State one-half of any sum over three dollars that they might charge for each passenger so carried.

That the said State has thus assumed to itself a right contrary, as your memorialists believe, to the constitution of the United States, to impose, at its pleasure, duties upon all passengers and merchandise entering into, and departing from its territory, and has constituted the said companies its agents for the collection of those duties.

That the object of this course of proceeding is to throw upon the citizens of other States of the Union the burthen of supporting the government of that State, and thereby to exempt its own citizens from the payment of taxes for that purpose.

That while thus taxing the citizens of other States, the said State endeavors carefully to guard its own citizens from the effects of the monopoly thus granted, it being specially provided in the law which authorizes a charge of five dollars on passengers between New York and Philadelphia, that the way fare on said roads shall in no case exceed three cents per mile, at which rate the charge for the whole distance would not exceed two dollars and seventy cts.

That in the exercise of this assumed right to impose duties upon passengers and merchandise, the said State has thus destroyed that competition which is absolutely requisite for securing moderation of charge, frequency of commuication, and rapidity of transport.

That the charges upon the canal and railroads belonging to these united companies are in almost all cases double, in most cases treble, and in many quadruple, what they would be under a system of free competition, while communication is infrequent, and transportation far less rapid than on other roads.

That the amount collected by this company, and by the several sub-companies to whom this monopoly is farmed out, exceeds, as your memorialists have reason to believe, two millions of dollars, and consequently that the tax directly imposed upon the people of other States of the Union considerably exceeds a million of dollars.

That in addition thereto it imposes a heavy amount of indirect taxation in various ways, to wit:—

By deterring persons engaged in trade from travelling to attend to their own affairs, and thus compelling them to pay commissions to a vast amount.

By preventing the free interchange of commodities between the several portions of the Union, and more particularly between the cities of New York and Philadelphia.

By compelling the shipment by sea of vast quantittes of merchandise, thus causing delay and frequent loss of property.

By preventing that free intercourse between the people of the various portions of the Union, so essential to their own improvement, and to the harmony and prosperity of the Union itself.

That the amount of indirect taxation thus imposed considerably exceeds that of the direct taxation, and that your memorialists believe that they should be safe in estimating it at treble that amount.

That because of the existence of the monopoly thus secured to these companies, the post office department has found it at all times difficult to make satisfactory arrangements for the transportation of the mail, and that the system of correspondence between the cities of New York and Philadelphia, and the various intermediate towns and cities, is in a high degree unsatisfactory: whereas, were competition permitted, the mail would be carried more cheaply, more frequently, and more rapidly, as your memorialists believe, than in any other portion of the Union.

That by the constitution of the United States, your honorable bodies are empowered to establish post roads, and that in the exercise of that power your predecessors have caused such roads to be made through Maryland, Virginia, and other States.

That the difficulties there to be removed were merely natural ones that would in time have been removed without their aid, whereas the difficulty here existing is an artificial one, that the people themselves are not, and never can be competent to remove.

Your memorialists believe, therefore, that this is a case requiring the special intervention of the supreme authority of the Union. They have, for many years, been heavily taxed in the payment of exorbitant charges for the transportation of themselves and their merchandise, and they see no prospect of relief from any action within the State of New Jersey itself, which has just now granted to this company a further extension of its powers. They therefore respectfully pray that your honorable bodies will be pleased to direct the survey of a route for a post road between the cities of New York and Philadelphia, the line of such road to be retained under the perpetual control of the Union, and to be used for the construction of a railroad, the said road to be constructed by the United States, or by a company to be formed by virtue of an act of congress empowering the postmaster-general to make such arrangements relative thereto as he may deem best calculated to secure to the people of the Union, for themselves, their correspondence, and their merchandise, frequency and rapidity of intercourse, and moderation of charge.

Your memorialists would desire to call the attention of your honorable bodies to the fact, that while by the construction of this road, the convenience and advantage of the people of the Union will be greatly promoted, the post office department will thereby be enabled to contract for the transportation of the mail free of charge, and the war and navy departments will also be enabled at all times to pass both men and munitions of war at a cost less by more than one-half than is now demanded for them, and that thus the measure now proposed is one the adoption of which must greatly benefit the national treasury.

And your memorialists will ever pray, etc.

Laignel's Safety Brake.

Translated for the Journal of the Franklin Institute.

M. Laignel has proposed a safety brake for railroad cars, (patented in 1841,) consisting of a sliding piece, the lower part of which fits accurately upon the top of the rails; this is attached by means of four levers, to a vertical axis passing through the bottom of a car, equi-distant from the four wheels, so that by turning a handle, the brake may be raised or depressed vertically. When not in action it is raised a little above the rail, but by a simple revolution of the handle it may be pressed against the rail, and be made to check the velocity of the car by its friction; when required, the pressure may be carried so far as to lift the wheel off the rails, and leave the car resting upon the brake pieces (which are of considerable length,) and thus the whole weight of the car is rendered effective by its friction in arresting its progress.—*Bull. de la Soc. Ind. Nat., August*, 1847, *p.* 401.

Telegraphs.

Brett and Little's Electric Telegraph Converser.—On Wednesday evening, at the concluding lecture of Mr. H. M. Noad, on electricity and magnetism, at the Mechanics' institute, he gave an illustration of the operation and facilities afforded by the electric telegraph in connection with railways, by the use of the apparatus of Messrs. Brett and Little, and alluded to the whole of their arrangements, which he described as beautifully simple and perfect. The lecture was interesting, and a numerous audience was present.

Coast Survey.

Extract from the Report of the Superintendent of the Coast Survey, showing the Progress of the Work during the Year ending October, 1847.

Use of the Electro-Magnetic Telegraph for Differences of Longitude.—The use of the telegraph lines established between Washington and Jersey City, opposite New York, to obtain differences of longitude, has been continued during the present season, and the attempts to obtain differences of longitude, by this method, between Washington, Philadelphia, and Jersey City, have proved entirely successful. The arrangements explained in my report of last year were found sufficient for the continuation of the work. The superintendent of the national observatory, Lieutenant M. F. Maury, again directed the cooperation of that establishment. The observations at Philadelphia were under the direction of Professor Kendall, and those at New York under the direction of Prof. Elias Loomis. The details of observation were arranged, and the connexion of the different parts secured, by assistant Sears C. Walker, of the coast survey, who was charged with the operation.

The principle of this method is well understood to consist in transmitting signals at a known or determined time, from one telegraph station to another, where they are noted by a time keeper, well regulated to the time of the place. The difference in the times of giving and receiving the signals, according to the local time at each station, is their difference of longitude expressed in time.

The signals are given at one of the stations by pressing a key which causes the closing of a circuit. This closing, it is intended, shall be simultaneous with the ticking of a

clock or chronometer at the station. The circuit being closed, if the electrical wave or current takes a sensible time to propagate itself, or to pass from one station to another, the absolute time of the signals reaching the second or receiving station, is sensibly different from that of making the signal at the first or giving station. A coil about the poles of a horse shoe magnet of soft iron, forms part of the circuit through which the electrical effect is transmitted. Under its influence the soft iron becomes magnetic, attracting the soft iron bar (armature or keeper) delicately poised at a determined distance from the poles of the magnet; the movement of this keeper sets in action a local battery which gives sufficient power to make the dots and lines constituting the Morse telegraphic signals. The click of the keeper of this temporary magnet is compared, at the receiving station, with that of a clock or chronometer, thus marking the time at which the signal, made at a known time at the giving station, is received. From this explanation, it appears that there is liability to error: 1, in the clock times at the different stations. These are easily examined, and the most probable times assigned at each station, the personal equation for clock correction being determined and allowed for, they may then be treated as if only very small errors existed. 2. The time of striking the trigger or key, to close the circuit, may not coincide with the clock beat. The error, if any, from this source, is determinable by experiment; and careful experiment failed to detect a sensible amount. 3. The electrical effect may take a sensible time to be transmitted, and this may be known, if other sources of error could be got rid of, by transmitting signals from an eastern to a western station, and vice versa; and it may be rendered null in its effect upon determinations of difference of longitude by such alternate transmission, or it may be examined in its combined effect with the next error. 4. That of the sensible interval, if any exist, between the activity of the coil, its action in including magnetism in the receiving magnet, and the click of the keeper of this magnet. 5. The error in noting the fraction of a second as denoted by the clock. It was perceived that this difference in the estimate of fractions of a second, rendered the transmission of signals, by the beats of a well regulated sidereal clock, and their reception by another sidereal clock, of little avail, the time falling constantly upon the same fraction of the second. The transmission of signals, by beats of a mean solar chronometer, and the marking of the time of reception by a sidereal clock or chronometer, carries the fraction of the second over every part of the whole second, and once, at least, in ten minutes, marks the coincidence of the beats of the two time keepers. By observations of the coincidences, and the marking of intervals at the same station, the law by which each observer varied in the estimate of fractions of a second became known, and, of course, the differences (or receiving personal equations) of each observer, supposing them to be constant. Pains were taken to compare personal equations by all the observers. It turned out, finally, that this might have been done by transmitting signals; but, then, to have assumed it would have been to anticipate a result which was sought. The part of the error, then, of receiving signals from error of noting time, was ascertained numerically, and its value could be assigned within certain limits in any case. The inference is drawn from an examination of this class of personal equations, "that when the two clocks" (the one by which signals are given, and the other by which they are received, both being rated either to mean solar or to sidereal time,) "do not coincide in their beats; the observers, on the average, set down the fraction of a second of the signal received too small." Of the five errors, then, which I have enumerated, the numerical values could be assigned to two, (viz: 1 and 5,) and one (viz: 2,) was insensible. After assigning the values in any particular case to 1 and 5, there remain residual errors, caused by 3 and 4. Now, it is plain that both of these will effect the result alike; that is, will tend to make the time of receiving the signal later than it should be by the amount of retardation of the wave or current, and by the difference in the time of its reaching the spiral coil and the click of the keeper of receiving magnet. But a comparison of the observations shows a very small residual quantity having just the opposite sign, the signal being apparently received *earlier* than it was given. From this, the nullity of both these corrections, 3 and 4, is fairly inferred, and the interesting consequences follow, that "the telegraphic method of comparing clocks, distant two hundred miles from each other, is free from error when the method of coincidence of beats is employed, and that the probable error of the longitude, from this method, is the same as the mean result of the computed relative correction of the clocks for the nights of observation." An investigation of the probable value of such error shows that, under favorable astronomical circumstances, and with due care in the use of the transit instrument, "the astronomical difference of longitude, between any two stations of a trigonometrical survey, may be determined by telegraphic signals, with a degree of precision of the same order as that of the differences of latitude," the inaccuracy depending upon the same causes as the deviation of the plumb line.

The very interesting and elaborate report of assistant Walker, of which I have thus given the chief conclusions, will be published with the other results of the year. It contains in separate sections—1, a discussion of the theory of Morse's telegraph; 2, of the difficulties in the use of the telegraph, from imperfect insulation; 3, the theory of the adjustment of the magnets; 4, the theoretical discussion of the errors of the clocks at the different stations is thoroughly made, and equations of condition are formed for deducing the most probable errors from the observations; 5, equations of condition are formed for giving the most probable difference of longitude from the observations. Under this head, the mode of giving and receiving signals is discussed; the essential character of the method of coincidences is insisted on; tables of personal equations for each observer, and each fraction of the second, are framed. The key-beat and armature-beat in giving signals, are found not to differ. The correction for time of transmission of electrical effect, or "circuit time," and for the armature-beats of the receiving magnet, are explained, and the whole of the physical circumstances are expressed in an algebraic form. 6. The corrections for errors of the clocks at the several stations are deduced and applied. Full tables of the observations at the several stations are given in this connexion. The corrections for the differences in noting time by the different observers, (or personal equations of clock corrections,) are next made. 7. The table of signals transmitted and received is given. 8. The results of this table are examined and compensated by the equations of condition. 9. Numerical values are assigned, from observation, to the quantities independently compared, and the consequences obtained which have been given above.

Measurement of Base Line.—The site for the base line on Dauphin island was selected by assistant F. H. Gerdes, after his general reconnoissance of this part of the coast in 1845; and two preliminary measurements with the chain were made at different times, under his direction, by Messrs. Walker and Greenwell. The site presents great facilities for measurement and connecting the base with the triangulation. It is exposed, as all sites near the ocean must be, to the gradual or sudden action of the water, but, as far as can now be foreseen, is likely to be permanent, so as, if necessary, to afford an opportunity for re-measurement The base was laid out from near the woods on Dauphin island westward for nearly seven miles, to the western extremity of the island, which at that end is increasing. It has been kept as far as practicable from the gulf side of the island. It passes first, through the firm salt marsh which borders the Mississippi sound, then over the dividing ridge of low sand hills, upon sand flats with scarcely a rise, again upon firm marsh or sand flats covered with short grass on the sound side of the island. All the preparatory arrangements were made under the direction of Mr. Gerdes before my arrival at Dauphin island.

The measurement of the base was made by me, assisted personally by Mr. Gerdes and his party, to which were attached assistant Julius E. Hilgard and Mr. J. Hewston. The grading, where required, was done under the direction of Mr. W. E. Greenwell. The records were kept by Mr. Samuel Arthur. The apparatus was safely transported from Washington to Dauphin island, under the charge of Mr. Thomas McDonnell, who also aided in the measurement. Mr. Wurdeman accompanied me to make the repairs which it was supposed might be required from time to time, to examine the apparatus, and to see the working of the different parts.

The base apparatus presented some novel features in construction, the adaptation of others not hitherto used in field work, and a choice of parts previously used by others. The general plan was devised by me, and the details by Mr. Wm. Wurdeman, by whom they were executed by my direction.

This is not the place to describe the base apparatus, but I may be allowed briefly to allude to its general features:

1. The measuring bars were upon the compensating system, first used, I believe, by Colonel Colby in Great Britain, and by Mr. Borden in the United States, but the mode of obtaining the compensation differed entirely from that used by either of these gentlemen.

2. A principle was introduced in reference to the dimensions of the bars, which, if at all recognized, has not been hitherto applied, though obvious enough. A bar of brass and a bar of iron of the same dimensions, exposed to the same source of heat, will not heat equally in equal times. This is well known to depend upon the different conducting powers of the two metals, their different specific heats, and the different powers, of their surfaces to absorb heat. The bars, then, if of equal sections, when the temperature is rising or falling, have not the same temperature, and the system is not compensating. The surfaces are easily made to absorb equally by the same coating, and the *sections must be so proportioned to each other that the bars will have the same temperature* when exposed to variable temperatures of the atmosphere and of the case containing them. Having arranged the sections approximately, using numbers taken from the books, the changes in length during increase or decrease of temperature, were not perceived when microscopes were used supported upon wooden stands, or even upon stone blocks of small size; the means of measurement were not sufficiently delicate to perceive them, or they were masked by greater changes in the supports. When the level of contact was substituted for the microscopes, or when Mr. Saxton's reflecting pyrometer was employed, these changes became very perceptible, and it was necessary to resort to direct experiment upon the materials of the bars themselves to obtain even approximate compensation, and then to correct a small residual quantity by applying a covering more absorbent of heat to one bar than to the other. If such changes have not been perceived hitherto, it has been because adequate means were not used to detect them. I am indebted to Lieut. A. A. Humphreys, and to Mr. Joseph Saxton, for the perseverance and skill with which the experiments necessary to a complete adjustment of the apparatus were made.

3. The lever of contact and level first used, I believe, in the adjustment of standard measures by Bessel, was applied to indicate the lengths of the bars. The levels were so delicate that several divisions upon them made up a quantity entirely insignificant in the measurement. The doubt which I had was, whether the sensibility of the apparatus had not been carried too far. This was, however, entirely removed upon finding the rapidity and certainty with which it could be used. The contact of two adjacent measures was between a blunt knife edge and a plane of agate.

4. The trussed support for the bars adapted to bearing the apparatus at two points only, and the tin covering or tube which surrounded the whole, were similar in principle to those used by Mr. Borden, but differed entirely in the adaptation of them; the bars moved freely on the trussed frame on rollers, and were not attached to the covering tube in which the trussed frame itself was merely supported. The tin covering was conical and was doubled.

5. The trestles admitted of the various motions required in placing the apparatus. The length of the whole, about twenty feet, (six metres,) gave a weight which permitted easy and rapid transfer by four men, when covered with several thicknesses of imperfectly conducting material to keep the fluctuations of temperature within moderate limits. In arranging so many and various details, it is not to be expected that some of them will not admit of improvement; but the performance of the apparatus was highly satisfactory, working with a rapidity and accuracy quite going beyond my most sanguine expectations, and making comparatively light the labor of all concerned by the excitement produced by expectations constantly surpassed. The contacts were usually made in much less time than the setting of the forward trestles for the next measure. The following statistics of the measurement will suffice for the present to show that we have obtained a useful auxiliary in a geodetic survey, especially when the difficulties of triangulation render advisable the measurement of frequent bases.

The greatest length measured in the course of a day, in the final measurement, was 183 tubes, equal to nearly seven tenths of a mile; the least 47 tubes, or one-fourth of a mile; the average 104 tubes, or four-tenths of a mile. The whole measurement of nearly seven miles was completed in seventeen working days, not reckoning the time lost by bad weather, or occupied by change of camp, and by comparisons of the apparatus. The length of the apparatus was compared before and after the final measurement with a standard iron bar, with which it had been compared in the office, by using Mr. Saxton's reflecting pyrometer.

The accuracy with which a remeasurement of considerable length could be made, was tested more than once in the measurement, but it was determined to make a more complete direct trial by establishing intermediate marks, and noting by the micro-telescopes attached to the ends of the bars, the deviation at intervals. The greatest deviation in the length of seventeen tubes was between one and two hundredths of an inch; the average in twelve cases of repetition, not regarding signs, was five-thousandths of an inch, the final error at the end of the third of a mile remeasured was nothing. The probable error of remeasuring 112 yards was five thousandths of an inch, making in the whole length of the base, and supposing all the errors to fall in the same direction, which is physically most improbable, about five-tenths of an inch. The great practical difficulty found at the outset, was to obtain a mark, which would stand unmoved in the sand, to which to refer the apparatus on recommencing a measurement; this was satisfactorily obviated after many experiments, and the marks, which I have just stated to have been placed at intervals, may be assumed generally to have been stationary from one measurement to another. Incidentally, this remeasurement gave a strong test of the perfect compensation of the apparatus, under sudden changes of temperature as well as for different stationary temperatures. A storm came up after the second measurement was commenced, which interrupted it for between one and two hours, and cooled the air suddenly about four degrees. The second measurement was made at a lower temperature by some five degrees than the first, and under exposure to a sudden fall of temperature.

At the nearest whole measure to each mile, stone posts were planted in the sand and duly secured, and at the ends of the base, monuments were erected and secured with great care to mark the extremities of the line. Smaller stones were also placed in the prolongations of the base and across it at the ends, giving lines intersecting upon the extremities of the base line. Full descriptions of these monuments and stones, and of their condition at the close of the work, have been recorded in the office of the survey. They have been visited once since the measurement by assistant Gerdes, and their condition reported. The whole time occupied by my party at the base, including the landing and reshipping of the apparatus, the pitching and striking the camp, and its removal from the east end towards the west end, the measurement, placing monuments, trials of apparatus, etc., was six weeks, namely, from the 30th of April to the 12th of June. The final measurement (occupying 27 days,) was commenced on the 12th of May, and ended with the 8th of June, including in this period three days, when the camp was removed, and four Sundays. We were much indebted to Major Ogden, of the corps of engineers, for the important facilities which he afforded us.

Boston and Worcester Railroad.

To the Honorable Senate and House of Representatives:

The undersigned, directors of the Boston and Worcester railroad corporation, respectfully present the 16th annual report of their proceedings, of the receipts and expenditures of the corporation, and of the business of the road.

The amount of transportation on the road, during the last year, has increased, as will appear from the subjoined statement, to an amount far greater than that of the last or any preceding year, both in the local business of the road, and in that which is connected with the transport over the Western road.

Since the date of the last annual report, the laying of new rails, corresponding with

those of the second track, and weighing 63 pounds to the yard, on the track which was first constructed, in place of the lighter rails which were then laid, has been further prosecuted, so as to adapt the road more effectually to the use of locomotives and cars, of the largest class. This renewal of the track with a more substantial rail is now accomplished, with the exception of a distance of about 11 miles, which it is intended shall be completed the present season. At the same time, some important improvements have been made in the bed of the road, and in the widening of the cuts and drains, and the rails are more firmly laid, on an increased number of sleepers, and those of greater dimensions.

The construction of the Milford branch has been prosecuted during the year, and but for an unexpected difficulty, in the deep excavation at Phipp's Hill in Holliston, it would have been completed the last autumn. It was opened for use as far as Holliston in August last, and two daily trains run regularly over it, to that place.

On the application of a large number of inhabitants and landlords in Brookline, the directors have resolved to build a branch road to that place. This branch is about a mile and three-fifths in length. It passes over a tract of land, chiefly marsh, without crossing any public highway, and terminates at a central part of the village of Brookline, at a distance of three and three-quarters miles from the Boston station. The bed of the road is nearly graded and ready for the laying of the rails, and the entire branch will be soon completed.

A large number of inhabitants of Medway have made an application to the directors, for the establishment of a branch railroad leading from Holliston to the central village in that town. They have exhibited satisfactory proof, that there is a large amount of manufacturing business at that place and in the vicinity, and a large amount of travelling between it and Boston. These facts render the obtaining of railroad accommodation highly important to the interests of the place, and the business is of sufficient magnitude to insure a considerable income towards meeting the expenses of such a work. The directors have in consequence caused a survey of the route proposed for the branch to be made, with an estimate of the cost. The results of this investigation present extremely favorable views of the undertaking, the proposed line being nearly direct and entirely level, and free from serious impediments; but it has been deemed expedient to postpone a decision upon it for the present.

Since the year 1841, when the present freight house at the station in this city was erected, the amount of freight receipts, and of merchandise received and despatched, has increased fourfold. The quantity of merchandise which is received and loaded, or unloaded and delivered, in the active periods of business, exceeds a thousand tons per day. The greater part of this merchandise is necessarily received into the freight house.—The cars employed in the transport of it, belonging to this corporation, and to the Western and Norwich roads, which form a part of the connected lines of transportation, are more than equal to two thousand single cars, or half that number of double cars. To afford room for the large and increasing amount of merchandise, thus constantly passing through this station, and for the great number of cars of various classes, in which it is transported, it has been found necessary to erect additional freight houses, and to provide more room for railway trains within the city. Some large purchases of lands have been made for this purpose, and preparations have been made for the erection of part of the proposed buildings. It has been deemed important to provide, at the present time, before any further increase in the cost of land in the vicinity of the freight station, as far as possible, not only for the pressing demands of the business at the present time, but for a large prospective increase. The directors conceive it to be the duty of the corporation, to afford ample accommodation, for all the business which may seek a transit through this channel. They are desirous of making such provision, that there shall be no just ground of complaint of any want of facility, for expediting all the business, which may fall within the proper sphere of this extensive line of railroads, so important to the city and to the extensive region of country thus connected with it.

The proper accommodation of the passengers arriving at, or departing from, the station on Beach street, requires an enlargement of the building appropriated to this object.—For this purpose, it is the intention of the directors, on the earliest favorable opportunity, to enlarge the building by extending it westwardly, to Albany street, and to set apart appropriate tracks for the departing trains, with rooms for passengers, distinct from those which are appropriated for trains on their arrival.

Some change has also become necessary in the arrangement of the passenger station at Worcester, to facilitate the convenient union of the travel of the road, with that of the other railroads which terminate at that place. Some purchases of real estate have been made, for the accomplishment of this object; but the system of arrangement for carrying it into effect is not yet brought to maturity.

A large increase has been already made, in the number of locomotive engines of a large class, and also of passenger and freight cars. A still further increase is deemed necessary, and several additional engines, and a large number of cars, are now in the hands of the builders, which will be in readiness for the despatch of the business of the ensuing summer and autumn.

The cost of these important enlargements of the works, rendered indispensable by the rapid growth of the business of the road, has made it necessary to increase the capital stock of the corporation. The capital already authorised has been absorbed by the cost of the second track of the Saxonville branch, and of other works, accomplished previous to the close of the year 1846. The debt at the close of that year, occasioned by a portion of these expenditures, amounted to $154,000. Since that time, as will be seen from the annexed return, the debt has been increased by the sum of $593,000. These expenditures embrace $155,000, paid within the last two years for the heavy rail of the improved track, a part of which, however, is charged to income account in lieu of repairs: $75,000 have in the last year been expended in increasing the stock of engines and cars, exclusive of the sums paid for that object from the income account, and for repairs and depreciation: $200,000 have in the last two years been paid for the cost of branches, exclusive of the old iron used for this purpose; $225,000 have been expended within the last year for the purchase of land, chiefly in the city of Boston; and other expenditures have been made for important improvements elsewhere. The increase of capital which will be necessary to cover these expenditures, together with the cost of the new engines and cars already ordered; the completion of the branches now commenced, and of a branch road which it has been determined to establish to the central village in Framingham; the complete substitution of a heavy rail for the remaining light rail of the first track; and the cost of the new freight and passenger buildings proposed, will not swell the entire capital to an amount disproportioned to the annual receipts of income, in comparison with the proportions maintained between these two items, in most of the other railroad corporations of the commonwealth.

There has been no interruption, during the year, of the regular passenger or freight trains, from snow storms or any other cause. The speed of some of the passenger trains has been somewhat increased. To insure regularity and speed, and also every practicable degree of safety, to passengers and the persons employed on the trains, great care is taken to adopt engines and cars of the most approved construction, as well as the most approved methods of conducting the operations of the road; and also to employ, in the numerous responsible stations in the management of the business, such persons only as are of known sobriety and prudence, and of tried skill in their respective departments of duty. Notwithstanding the precautions which have thus been taken, and the utmost confidence which the directors feel in the general good condition, and skilful adaptation to their respective purposes, of all the works of the road, and of the machinery employed in the operations upon it, and also of the general system of management, several serious accidents, attended with the loss of life, have occurred in the course of the past year. Of these, the undersigned, in compliance with the provisions of the act of 1846, proceed to give a detailed return, with a detail of the circumstances under which they occurred. The number of serious and fatal casualties on the passenger trains, during the past year, is greater than have occurred on this road during the whole period since it was opened. A large proportion of the disasters here recorded, have arisen from the carelessness or inattention of the sufferers, and all of them, with one exception, from causes entirely in-

dependent of any mal-conduct, neglect, or carelessness, of any agent or person in the employment of the corporation.

On the 3d of March, during a period in which the whole operations of the road, in the vicinity of Worcester, were confined to a single track, in consequence of the taking up of the other track, for the purpose of laying down the new and heavier rail, a collision took place between a descending passenger train, and an empty gravel train, which was ascending on the same track. This collision was occasioned by the careless inattention of the engineman, who had the train in charge, in immediately leaving Worcester on the arrival of an upward freight train, without taking notice of the customary signal borne by that train, indicating that another train was following in its rear. The consequences of the collision were, a considerable injury to the engine and cars, and a serious personal injury to a passenger named David S. Page, who had, without authority, taken a stand upon the platform of the baggage car. All the persons upon the gravel train saved themselves from injury, by jumping from it before the collision; the engineman having first taken the precaution to reverse his engine, but not to shut off the steam. From the effect of the shock and the power of the steam, the engine was immediately set in motion in an opposite direction, before the engineman could regain his station upon it. It ran down the road a distance of about eight miles, when it stopped from the exhaustion of the steam.—It was there soon unexpectedly encountered by the four o'clock passenger train from Boston, when another collision took place, with some damage to the *material* of the two trains, but without any personal injury. On the coming up subsequently of the steamboat train, the disabled parts of the injured train were removed from the track, and the two passenger trains being united in one, they proceeded onward towards Worcester. The track being still obstructed by the wrecks of the first collision, it became necessary to pass over upon the newly laid track, which was nearly finished but not reopened for use.—While proceeding slowly and with great caution upon this track, on approaching the freight station, the train, from the darkness of the night, came in contact with some freight cars which had been placed on the track while it was disused, and which the agent had not succeeded in removing; and by this collision, two other persons, Mr. Flint, a road repairer, and R. K. Porter, baggage master, were seriously injured. The former died of his wounds, but the latter recovered. This series of disasters arose from the momentary culpable heedlessness of an agent, of good character and capacity, who had been for some time employed in the same situation, and who had inspired confidence by his prudence and good conduct. He was of course discharged from his situation.

On the 6th of November, a disaster, still more serious in the number of sufferers, occurred on the forenoon passenger train from Springfield, at the crossing of the Milldam road in Brookline, while it was proceeding at its usual speed, of probably twenty eight miles an hour. In consequence of the falling down of one end of the brake of the second class passenger car, and after it had dragged a short distance upon the track, the car was thrown from the track, it being near the head of the train. After sliding a short distance upon the track, the car struck an abutment of the bridge which there crosses an arm of the full basin, and it was crushed by the force and weight of the cars which followed it. So sudden and complete was the wreck of the car, that six of the persons in it were immediately killed, and four or five were seriously injured.

On a careful investigation of the facts of this case, the undersigned were unable to discover any carelessness or inattention, on the part of any of the agents of the road. The accident was occasioned by the failure of a part of the machinery of the car, which was constructed in a manner similar to those in in common use on other roads, and which has been regarded as safe. It must be regarded as one of those unfortunate casualties which the utmost caution and prudence cannot fully guard against, but which continued watchfulness and increasing experience will render of rare occurrence.

These are the only disasters which, during the year, have effected or endangered the lives of any of the passengers, except such as have been the result of their own gross imprudence. On the 15th of May, Mr. W. Dean of Easton, intending to go to Brighton, took a seat by mistake in the New York steamboat train. On discovering that the train did not stop at Brighton, he jumped from the car while it was moving at full speed, probably thirty miles an hour, and he was instantly killed.

On the 15th of April, William Williston, a lad of 13 years of age, jumped from the train at West Newton, and was seriously injured, but he survived.

On the 11th of December, Franklin Germain, of West Newton, leaped from the train as it passed his home, and he was badly wounded in the head, but recovered.

Another class of accidents consists of those which have happened to several, of the great number of agents, employed in hazardous duties on the road, and arising either from want of care and attention, on the part of the sufferer, or from the unavoidable hazards inherent in the duty to be performed.

On the 21st of February, Mr. George H. Haven, a prudent and faithful agent of the corporation, while employed in assisting in clearing the railroad track near Westboro', from a deep snow, was violently thrown from the snow plough beneath the engine, and was so severely injured that he survived the accident but a few hours.

William M'Graff, a laborer, had his leg crushed, and he died in consequence. Joseph Jackman, a fireman, fell from the engine and was killed. Edward Livingston and Lewis Morse, freight train brakemen, were knocked from their trains by striking road bridges, and were killed. John Mitchell, a freight train brakeman, fell from the train and had his leg broken; and Weston Lamphier and George W. Dormett have been seriously injured by being struck by road bridges.

On the 5th of July, a hackman, supposed to be intoxicated, in driving a coach over the Roxbury branch of the Milldam road, persisted, in opposition to the earnest efforts of the flagmen to prevent him, in driving across the railroad track, at the moment when an engine and water car from Brighton were passing. The coach horses were instantly killed, the coach was destroyed, and three or four persons in the coach were seriously injured.

On the 27th of April, Franklin Hitchcock of Worcester, got upon a freight train, without the knowledge of any one, and was knocked off by a bridge near Westborough, being seen only by a farmer at a distance, and was killed.

Patrick Conroy, a laborer, while walking on the railroad track, near Tremont street bridge; an Irish lad, 15 or 16 years of age, while walking on the track near Brighton; and an Irish laborer, walking on the track above West Needham, were at different dates run over by the train, and instantly killed.—Sumner B. Haughton, of Natick, while walking on the track, was knocked down by a passenger train and seriously injured. To guard against this class of accidents, the directors and officers of this corporation have used all practicable efforts, to prevent the dangerous practice of walking on the railroad. The public are too little aware of the danger they encounter, in trusting to their self possession, to avoid being run over by the train, in carelessly walking upon a railroad, especially where there is a double track, and a liability to encounter, at the same moment, trains approaching in opposite directions.

For the purpose of guarding as far as possible against one of the classes of accidents above recorded, the undersigned have taken measures to ascertain what number of the bridges over the railroad may be raised to a height sufficient to secure the brakemen against the danger of collision. It is indispensable for securing the efficiency of the services of a brakeman, that his station should be so elevated, that he may see from one end to the other of the train, and be able to take notice of the signals which may be given him. This renders it necessary that, in passing bridges of the ordinary height, he should take the precaution of stooping for his own protection. This necessity can be obviated only by raising the bridges, to an elevation of three or four feet above their present height. In many cases this cannot be done, without injury to the common roads. In others, it would be attended with little difficulty. But to enable railroad corporations to make the desired improvements, it may be necessary that authority to that effect should be given them, by a law of the commonwealth, the exercise of the authority in each case to be subject to the approval of the town authorities, or the county commissioners.

In conclusion of their report, the undersigned hereto subjoin the return required by the act of April 16th, 1846.

Return of the Boston and Worcester Railroad under the Act of April 16th, 1846.

Capital stock		$3,500,000 00
Increase of capital stock since last report	None.	
Capital paid in per last report		3,500,000 00
Capital paid in since last report	None.	
Total amount of capital stock paid in		3,500,000 00
Funded debt per last report	None.	
Funded debt paid since last report	"	
Funded debt, increase of, since last report	"	
Total present amount of funded debt	"	
Floating debt, per last report		154,204 25
Floating debt paid since last report		593,253 01
Floating debt, increase of, since last report		
Total present amount of floating debt, [including dividends]		745,357 26
Total present amount of funded and floating debt		
Average rate of interest per annum on do, [on portion bearing interest]	Six per cent.	

COST OF ROAD AND EQUIPMENT.

For graduation and masonry, per last report		
For graduation and masonry paid during the year.		
Total amount expended for graduation and masonry		
For bridges, per last report		
For bridges, paid during the past year		
Total amount expended for bridges		
For superstructure including iron, per last report		
For superstructure, including iron, paid during the past year	Per last report,	3,212,264 48
Total amount expended for superstructure, including iron	Paid during the year,	555,673 54
For stations, buildings and fixtures, as per last report	Total amount,	3,767,938 02
For stations, buildings and fixtures, paid during the past year		
Total amount expended for stations, buildings and fixtures		
For land, land damages and fences, per last report.		
For land, land damages and fences, paid during the past year		
Total amount expended for land, land damages and fences		
For locomotives, per last report		124,396 69
For locomotives, paid during the past year		7,720 00
Total amount expended for locomotives		132,116 69
For passenger and baggage cars, per last report	Per last report,	148,571 26
For passenger and baggage cars, paid during the year		
Total amount expended for passenger and baggage cars	Paid during the year,	64,983 68
For merchandize cars, per last report	Total amount,	213,554 94
For merchandize cars paid during the past year		
Total amount expended for merchandize cars		
For engineering and other expenses, per last report.		
For engineering, and other expenses, paid during the past year		
Total amount expended for engineering and other expenses		
Total cost of road and equipment		4,113,609 65

CHARACTERISTICS OF ROAD.

Length of road	44¼ miles.
Length of single track	None.
Length of double track	44¼ miles.
Length of branches owned by the company, stating whether they have a single or double track	14 miles—single track.
Weight of rail per yard in main road	50 to 64 lbs.
Weight of rail per yard in branch roads	40 lbs.
Maximum grade, with its length in main road	30 ft. for 14¼ miles, and 40 ft. for ¼ mile.
Maximum grade, with its length in branch roads	30 ft. for 2¼ miles.
Total rise and fall in main road	717 ft.
Total rise and fall in branch roads	177 ft.
Shortest radius of curvature, with length of curve in main road	600 feet for 900 feet.
Shortest radius of curvature, with length of curve in branch roads	558 feet for 900 feet.
Total degrees of curvature in main road	1975 deg.
Total degrees of curvature in branch roads	686 deg.
Total length of straight line in main road	25 5-6
Total length of straight line in branches	9 7-20.
Aggregate length of truss bridges	350 feet.
Whole length of road unfinished on both sides	None.

DOINGS DURING THE YEAR.

Miles run by passenger trains	211,206
Miles run by freight trains	167,363
Miles run by other trains	26,586
Total miles run	405,155
Number of passengers carried in the cars	598,305
Number of passengers carried one mile	14,480,678
Number of tons of merchandise carried in the cars.	283,718
Number of tons of merchandise carried one mile	10,755,799
Number of passengers carried one mile, to and from other roads	6,085,010
Number of tons carried one mile to and from other roads	8,228,327
Average rate ot speed adopted for passenger trains, including stops	22 miles per hour.
Average rate of speed adopted for freight trains, including stops	9 miles per hour.
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile	11,808,084
Estimated weight of merchandise trains, including engine and tender, but not including freight, hauled one mile	18,989,212

EXPENDITURES FOR WORKING THE ROAD.

For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron		$60,962 43
For repairs of truss bridges		3,053 74
For renewals of iron, including laying down	Included in road repairs.	
For wages of switchmen, gate keepers and flagmen		1,086 79
For removing ice and snow		92 37
For repairs of fences, gates, houses for flagmen, gate keepers, switchmen, tool houses	Included in road repairs.	
Total for maintenance of way		65,195 33

MOTIVE POWERS.

For repairs of locomotives	$32,452 94	
For new locomotives to cover depreciation	7,750 00—	40,202 94
For repairs of passenger cars	19,846 86	
For new passenger cars to cover depreciation	5,000 00—	24,846 86
For repairs of merchandise cars	18,590 63	
For new merchandise cars to cover depreciation	7,500 00—	26,090 63
For repairs of gravel and other cars	Included in road repairs.	
Total for maintenance of motive power		91,140 43

MISCELLANEOUS.

For fuel and oil		80,368 33
For salaries, wages and incidental expenses, chargeable to passenger department		33,476 56
For salaries, wages and incidental expenses, chargeable to freight department		68,240 64
For gratuities and damages		7,812 67
For taxes and insurance		5,642 66
For ferries	None.	
For repairs of station buildings, aqueducts, fixtures, furniture		3,916 24
For interest		
For amount paid other companies, in tolls for passengers and freight carried on their roads, specifying each company	None.	
For amount paid other companies as rent for use of their roads, specifying each company	None.	
For salaries of president treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items		26,192 77
		381,985 63

INCOME DURING THE YEAR.

For passengers:—	
1. On the main road exclusively, including branch owned by company	303,580 31
2. To and from other roads, specifying what:	
For freight:—	
1. On main road and branches owned by company.	371,662 79
2. To and from other connecting roads:	
U. S. mails, $17,569 90; rents, $15,008 64; other income, $10,348 68	42,927 22
Total income	722,170 32
Net earnings after deducting expenses	340,184 69

DIVIDENDS.

One paid in July, 5 per cent.: one payable in January, 5 per cent	350,000 00
Surplus not divided	19,910 49
Surplus last year	29,725 80
Total surplus	19,910 49

ESTIMATED DEPRECIATION BEYOND RENEWALS, VIZ:

Road and bridges	
Buildings	None.
Engines and cars	

Nathan Hale, Daniel Denny, Eliph. Williams, Nathaniel Hammond, Jno. Hathaway, Abraham T. Law, B. F. White.

Boston, January 28, 1848.

James River and Kanawha Canal Company's Report for 1847.

We commence, in this number, the publication of the annual report of this company, as made by Wm. E. Chittenden, Esq., the president.

The James River and Kanawha company is, according to their reports—of which we now have, and for the first time, a full set before us—the oldest *chartered navigation* company in the country.

The first act of the general assembly of Virginia in relation to this improvement, published in the first volume of these reports, is dated October, 1784, and is entitled "*an act for clearing and improving the navigation of James river.* Yet the company appears not to have been thoroughly organized until—or rather we find an account of the proceedings "at their *first general* meeting on—the 25th of May, 1835.

The first annual report of the directors was made on the 16th of December, 1835, by its able president, Joseph C. Cabell, Esq., who devoted many years of his life, and best efforts, to the success of the work, and the prosperity of his native State.

Mr. Cabell's connection with the company as president, ceased on the 10th of February, 1846, by his resignation of a post which he had held, and in which he had labored with untiring industry, from its organization.

The rapid advance of the railroad interest had divided the people of Virginia on the policy to be pursued in completing the communication between tide water and the Ohio river. Mr. Cabell, however, adhered firmly to the original plan of a water communication, which rendered him unpopular with a portion of the legislature, thus preventing, as it was said by his opponents, favorable legislation on the subject, whereupon he resigned his position as president—thus proving that his aim, and efforts, and labors, had been for the prosperity of the improvement, and the State—not personal interest or aggrandisement. On resigning his post, however, he presented a supplemental report, of *great ability*, in support of the policy advocated by him and his friends. It occupies 143 octavo pages, and contains a vast amount of interesting and useful information, in relation to canals and railroads—their relative cost and value: and from which we intend to make copious extracts hereafter, when we find leisure to examine it more carefully.

Yet, with all his ability and his efforts, however much we may admire the man, and the patriot, we cannot advocate his views for opening the communication with the western waters, as we do not believe it would tend so thoroughly to restore the old dominion to her former position, as the more modern improvements which give greater speed and certainty to travel and trade. We, however, now give the last annual report of the directors, by their new president, Mr. Chittenden, from which our readers will derive both pleasure and profit.

We shall follow this report with that of the *Morris*, and *Schuylkill*, and other canal companies; that we may be able hereafter to show what they have done, and are doing.

REPORT OF THE PRESIDENT.

To the Stockholders of the James River and Kanawha Company:

In presenting to you the annual report required by the by-laws, at the close of the company's fiscal year, which duty has fallen upon me on this occasion, I beg leave to adopt, with but a slight variation, the method pursued in late years by my predecessors, and to speak of

1st. The condition of the existing improvements;

2d. The state of the finances;

3d. The resumption of the works; and

4th. The plans and prospects of the company.

1. CONDITION OF EXISTING IMPROVEMENTS.

Richmond Dock.

Concerning this portion of the line considered as a work in operation, there is little to be communicated. In the last annual report, the inadequacy of the outlet lock to admit the larger class of vessels, was adverted to as a prominent cause of the languishing condition of the business of the dock and of the low state of its revenue. That cause still exists and produces the same effect. A belief has prevailed, moreover, that the gates and timbers of the lock were so much decayed as to be momentary liable to give way—a casualty that would delay, and perhaps injure the vessels happening to be in the dock at the time. This work, however, has been very recently repaired by renewing both sets of gates, splicing their quoin-posts, loading their balance beams, substituting sound for decayed timbers, and strengthening the lock by proper appliances. By this means, the safety of the gates and the facilities for working them have been greatly increased, and the lock itself placed in a condition equal, with proper care, to the efficient accommodation of all vessels which can be admitted by it, until the completion of the new and enlarged lock shortly to be undertaken. That this will have the effect of restoring the confidence of ship-masters in its safety, seems probable from the fact that on the day after the completion of these repairs there were, as I am assured, more vessels in the dock at the same time than there ever had been before since its purchase and resusciation by the company. It is to be hoped, therefore, that the exertions of a rival interest to prevent vessels from entering this commodious haven, will not continue to be as triumphant as heretofore, and that, next year, the revenue will be proportionably increased.

Besides the repairs above mentioned, another expense under the head of extraordinary repairs was incurred in July last, in consequence of a breach which took place in the wall, and heavy inner embankment on the east side of Shockoe creek, north of the aqueduct. It was occasioned by leakage through an old wall of open masonry, which had become imbedded in the earth just without the northern margin of the dock, and had not been removed and substituted by clay puddling. Perhaps its existence was not known. The breach was twelve yards wide, and carried away about 415 cubic yards of embankment. The water, moreover, rushing against the wall on the opposite side of the creek, loosened its foundations so that 73 yards of the masonry of the two walls had to be taken down and rebuilt The breast wall between the abutments of the dock bridge prevented the main portion of the dock from being drawn down so low as to interrupt its ordinary business. The repair of this breach cost $651 28, which together with the sum of $131 05 paid on account of the work upon the lock, makes an aggregate of $783 33 expended for extraordinary repairs during the year.

Under the head of ordinary repairs the heaviest expense of the year was incurred in refitting the steam-dredger, passing it through the lock and working it in the channel below. Besides this, for the better accommodation of the colliers, the coal spouts were repaired, the embankment and streets leading to them improved, and the flooring of the dock bridge renewed. These several repairs, together with some minor jobs, have swelled the item of ordinary repairs to the sum of $2,730.

The gross dockage collected during the year has amounted to		$10,272 80
To which add for rent of quay		100 00
Making a total of		10,372 80
Deduct disbursements, as follows:		
For extraordinary repairs	$783 33	
For ordinary repairs	2,730 00	
For salaries and incidental expenses	1,387 24	
Total		4,900 57
Leaving a net revenue of		5,472 23

This revenue has been applied to the redemption of the outstanding dock scrip, which has also been reduced by other means, leaving a balance of $1,399 still afloat.

The Canal between Richmond & Lynchburg.

On this portion of the line, the organization adopted at the commencement of 1843 has been kept up during the past season. It consisted of two superintendents of repairs, between whom the whole distance of 146 miles, as well as the yearly force of laborers employed for the purpose of ordinary repairs, is about equally divided. The entire force consisted of 78 slaves, operating in seven squads under as many overseers, (one of which was employed in working the mud machine.) 11 carpenters, including two head men, and one blacksmith. A sufficient number of the slaves, possessing the requisite intelligence, are employed as patrols, each of whom is required to travel over his beat every day, with a proper implement in hand, to be ever on the look out for the first indications of a breach or other casualty, and to prevent, if practicable, in its incipient stages, or otherwise to give immediate notice of it to the nearest overseer, and to the lock-keepers in the neighborhood. This he does under the promise that in case no breach that could have been prevented by his exertions, takes place on his beat during the year, he shall at the close thereof receive a stipulated reward, which is sufficient to secure his vigilance. This arrangement, it is believed, has been very efficacious in preventing disasters on the line.

The finances of the company have not yet enabled the board to act under the authority which they received from the stockholders in March last, to purchase a force of slaves sufficient for the execution of the ordinary repairs.

The operations of the force employed for this purpose, are detailed in the accompanying annual reports of the superintendents,

Mr. Reins and Mr. Gill, [App. F and G,] to which I beg leave to refer.

It has been the usual practice to embody in the president's annual report, a fiscal statement deducing the precise portion of the aggregate expenditures on the canal, coming properly under the head of the ordinary repairs. As all of these statements must necessarily be made in precisely the same form, I have preferred to communicate such a statement as an accompanying document, [App. E.] and referring to it for details, will merely state that the ordinary repairs for the past year thus deduced, are found to have been $53,198 93, exceeding those of the previous year by $3,993.

Besides the year hands kept for ordinary repairs, a force of 19 stone-masons, quarrymen and stone cutters have been continued in employment, partly for the purpose of any renewals of the masonry which might become necessary, but chiefly to prepare and distribute rock for the construction of permanent stone locks, in place of the composite locks, which, on account of the lack of suitable materials in their respective neighborhoods, had to be resorted to in the original construction of the canal. This force will be retained until a sufficient quantity of rock for the renewal of all the composite locks shall have been distributed at their several sites.

With a view, also, to the unusual amount of extraordinary repairs which you were informed in the last annual report would be required in the course of the year, a company of 20 laborers were hired by the year, and placed under the charge of John Burruss, as overseer; and a large number of laborers and suitable overseers were engaged, temporarily, in advance, to come upon the line at the time specified for suspending the navigation with a view to those repairs.

It being impracticable to obtain the necessary labor for such a work between the 15th of December and the 15th of January, when the navigation could be suspended without incommoding the public, timely notice was given that the water would be drawn off on the 15th of May. This was accordingly done, and the navigation restored upon different portions of the canal between the 23d of May and the 3d of June, being nowhere suspended longer than 18 days. For details of the amount of labor employed, and the items of work executed, I beg leave to refer to the accompanying reports of the superintendents, Mr. Reins and Mr. Gill. [App. H and I] From the state of the canal at present, and from an observation which the suspended navigation permitted to be made on the first seven levels, showing that the annual deposite is only about half an inch in depth, it is hoped that the water will not have to be drawn off for the purpose of removing the deposite for the next five or six years.

Shortly after the navigation was restored, the extra force under Mr. Burruss was transferred to the unfinished line above Lynchburg for the execution of such work as cannot conveniently be placed under contract. This force will be much increased both in overseers and laborers, and similarly employed during this and the next year.

It will be proper here to notice certain works undertaken during the year, which are not adverted to in the reports of the superintendents. The first is the excavation of a straight ditch from Beaverdam aqueduct to James river, of dimensions adequate to the discharge of the creek when swollen by the highest freshets. The work is now in course of construction by a contractor. Another is the construction of a culvert under the canal just below Harvie's basin, in the city of Richmond, to carry off the branches and drainage of the valleys south and east of the penitentiary. In this work the board have agreed to co-operate with the corporation of Richmond and the managers of the penitentiary, provided the cost to the company shall not exceed $1,200. This work has not yet been commenced. Both of these works not only commended themselves to the board as measures of economy in the reduction of the annual expenses, but were urgently demanded by the neighboring inhabitants for the removal of alleged nuisances calculated to engender disease in their respective vicinities. Besides these, the chief engineer has been requested to furnish the plan and estimate of a new towing path bridge across Tye river, in place of the present dilapidated structure.

As the attention of the chief engineer will for a long time be necessarily divided between the tide water connection and the extension of the canal above Lynchburg, and this circumstance will call for his frequent transit between those works, the board have thought proper to request him to have a vigilant eye upon the canal, and to report from time to time whatever in the condition or management of the works may call for the action of the board, with a view to the prevention of disasters, and the reduction of the annual expenses.

The stockholders must be aware that the condition of the canal between Richmond and Lynchburg has been greatly improved, and is gradually improving, by the natural settlement of its banks, by the repair of weak points disclosed by breaches, and by the substitution of permanent stone structures instead of those of a temporary character originally resorted to. These causes will probably render it practicable and expedient, at no distant period, to place the whole line under the management of one superintendent, operating with a sufficient force of overseers and laborers. This simplified organization, it is believed, will be introductive of greater system, uniformity, and economy, in the management of the works, than are now practicable.

The gross amount of tolls collected from the canal during the past year, has been $203,605 60, being an excess over the tolls of the previous year of $32,416 98. This favorable result being to some extent attributable to causes not likely to recur annually, cannot be taken as indicative of the rate of increase for future years.

The tariff of tolls adopted by the stockholders on the 5th of February, 1847, (12th Ann. Report, p. 122–3,) has been slightly reduced upon a few articles which it evidently excluded from the canal. Although, for a notorious cause, it is upon a higher scale than it will be expedient to maintain when the improvement shall have penetrated farther into the west, it has been acquiesced in by the public with less complaint than was anticipated.

During the year, the board have found it necessary to introduce a few changes in, and additions to, the regulations heretofore adopted for the government of the canal and dock, which are herewith respectfully communicated (App. J,) for sanction or rejection by the stockholders.

The want of the south side and Rivanna connections still debars the sections of country entitled to them, from an equal participation in the benefits of the canal, and deprives the company of an amount of toll, which, from satisfactory estimates heretofore made, would, it is confidently believed, more than pay the interest on the cost of their construction. I bring this often reiterated subject again to your notice, as in duty bound, leaving to your better judgment the question whether any action shall be taken upon it or not.

The Blue Ridge Turnpike and Ferry.

These works have been under the charge of an overseer, (Mr. Moelick.) with a ferryman and two laborers. The turnpike has been kept throughout the season, and is now in excellent order. A new "flat" is required at the ferry. This the overseer has been directed to procure without delay. The receipts during the year have been $1,218 65, and the expenditures $919 60, leaving a net revenue of $299 05.

The completion of the canal from Lynchburg to the North river, will doubtless diminish the receipts from these works to less than the amount required to keep them in repair; in which case it will be expedient to abandon them to the counties through which they pass, to be kept up by them or not, as authorities may determime.

The Navigation from Lynchburg to Covington.

This is still confined to the bed of the river, and subject to all the inconveniences and dangers which have attended it ever since the Blue Ridge canal was broken up. It will be seen in a subsequent part of the report that the navigation of the part of the line formerly occupied by that canal, is expected to be opened in all of next year. When this desirable object shall have been achieved, perhaps it may be safe and proper, in reference to the censure so long and unsparingly showered upon the company for breaking up the canal, to remind the public that the old work was abandoned not merely for the purpose of being substituted by a new and enlarged canal, but because, by reason of its dilapidated state, the income derived from it, though equal to what it had ever been, was inadequate to keep its decaying structures in a condition fit for use.

It is of course understood that no revenue

whatever is at present drived from the water line between Lynchburg and Covington, and that, consequently, nothing can be expended on the river navigation between those points.

The Western Improvements.

The Kanawha Turnpike, extending from Covington to the mouth of Big Sandy, with a branch from Barborsville to Guyandotte, an aggregate distance of 208 miles, has been kept in its usually good condition throughout the season since the commencement of repairs upon it last spring. During a tour of observation upon these improvements last summer in company with the agent who has them in charge, the chief engineer of the company, and Colonel Bondurant, of the directory, I had the opportunity of seeing the portion of the turnpike on this side of Charleston, just after a rain of several days continuance, and when the difficulties to be encountered in its superintendence were more apparent than they would have been under circumstances less prejudicial to the appearance of the work. These difficulties, arising chiefly from the nature of the soil and the lack of good materials for the construction of a permanent road bed, are so serious for a greater portion of the line, that it could scarcely be kept in passable order and at the same time yield a net revenue unless under a very judicious and economical system of management. Among other things worthy of notice in the system pursued, are the practice of keeping materials on the way side ready for packing the ruts and filling the gutters occasioned by the travel in rainy weather at all points where they are likely to be wanted—the organization of a force of overseers and laborers residing at convenient distances along the road, and when not wanted by the company, occupied on their own farms or in their own workshops, but holding themselves as minute men, subject to the call of the agent, and in the event of a casualty while he is at a distance, always ready to turn out on the instant, make the needful repairs, and return to their private occupations, thus forming a cordon of useful sentries at suitable posts, and subjecting the company to no expense but for the labor actually performed by them—and lastly, the practice of purchasing a fresh supply of draft cattle every spring, and selling them off in the fall, (which is not unfrequently done at a profit,) by which means the stock on hand is always young and healthy, and the serious cost of wintering them is avoided.

The operations of the company's force upon the road will be seen in sufficient detail in the accompanying report of the agent. [App. K.] The receipts at the toll gates, after deducting commissions for collecting, and the proceeds of sales of property, have amounted during the year to $9,318 18. The expenses of the year, inclusive of the agent's salary, and of the amount expended in the renewal of bridges, have been $6,544 45, leaving a net revenue of 2,773 73 dollars.

The Kanawha River, from Charleston to its mouth, down which we passed during the tour I have already mentioned, was too much swollen by the recent rains to afford a view of the improvements upon it. A few weeks later, at a period of comparative low water, I had an opportunity of passing down as far as the foot of Tyler's shoals, a distance, it is true, of only five miles, but comprising the greatest difficulties and the most important works on the river below Charleston.

The original plan, location, and construction of these works, are much criticised on the river, and serve as a convenient palliation for the evasion of tolls so long persisted in by a class of its navigators. Not being qualified either as an engineer or as a boatman, to speak with authority on the subject, I will merely say that as this company had no hand in orginating the works, its responsibilities are clearly limited to the duty of keeping them in repair, and gradually remedying their defects when practicable at an admissable cost, and that, as far as my examination extended, that duty appears to have been faithfully performed.

The report of the agent already communicated will show that, owing to the long prevalance of high water throughout the past season, the usual amount of work was not executed, nor indeed an amount commensurate with its unavoidable cost.

The gross tolls realized from the river during the year ending with the 30th of September, amounted to $9,217 51, while the expenses chargeable thereto were $2,963 75, leaving a net revenue of $7,253 76.

The practice of giving credit for the river tolls, which was commenced under the former, and has been continued by the present company, has been several times adverted to in preceding annual reports. Its evils will be apparent from the fact that, during the past year, without any known remissness in the collector, while the accruing tolls have been $12,516 04, (exceeding the collections $3,794 57,) the uncollected tolls have increased in amount from $19,835 19, to $23,238 83. The credit thus given being now looked upon as a prescriptive right, it will be impracticable to withhold it until the completion of the new works upon the Kanawha, contemplated by the company, in order to constitute that river a part of its line, shall require the introduction of a system of collection uniform with that which has been adopted on the canal. And why should these new works be any longer delayed. That the old improvements, however well kept up, are inadequate to the natural wealth of the region bordering on this river, no one will undertake to deny. The estimate of the new improvements calls for an expenditure of $500,000, the interest of which will be $30,000 per annum.—Should they be made even before the chain of connection is perfected between them and the James river, there can be no doubt with those who attentively examine the subject, that the increased commerce of the Kanawha valley with the cities on the Ohio, would soon yield a revenue sufficient to meet the interest, while a trade of no inconsiderable importanee would in this way be prepared, in advance, to turn to the east, if more profitable, whenever the avenue for it should be opened in this direction.

Referring to the proceedings of the 11th annual meeting of the company, it will be seen that the improvement of the Kanawha in the manner proposed, at least as far up as Charleston, will not interfere with the question of the mode of improvement west of Buchanan, whether the decision of the stockholders on that occasion shall be finally adhered to or reversed.

I therefore respectfully suggest, unless the aspect of the times, in a pecuniary point of view, should be thought unpropitious for the attempt, that application be made to the legislature at its approaching session, for such aid and authority as will enable the company to raise the means of executing the improvements heretofore contemplated on the Kanawha, from the Ohio to Charleston, or, in the alternative, for the aid necessary to build the dam at the foot of Tyler's shoal, which was urged as important and desirable in the last annual report. It is due to the citizens of that region that this earnest should be given of the company's determination to carry its work to completion. At the same time, it is no less due to the company, that those citizens should put their own shoulders to the wheel with zeal and unanimity, and endeavor to promote the success of the application by all the influence which they possess in the councils of the commonwealth.

To be continued.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

PENNSYLVANIA RAILROAD COMPANY. Notice to Contractors. Proposals will be received until Wednesday, the 17th day of May, at 10 o'clock A.M. at the Borough of Huntingdon, for the Grading and Masonry upon about 36 miles of the Pennsylvania Railroad, between Lewistown and Huntingdon, and also for the heavy work along the Little Juniata, including a large amount of Bridge Masonry.

Plans and specifications of the work can be seen at the above named place for five days previous to the time appointed for receiving the bids.

Any further information can be had upon application to Wm. B. Foster, Jr., Esq., Associate Engineer, at Lewistown. S. V. MERRICK, Pres't.
April 20, 1848. 4t17

BREESE & ELLIOTT, IMPORTERS OF— and dealers in—Iron and Steel, 245 Water st., New York. Railroad Tires furnished to order.
April 29, 1848. 1m18

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accuracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.

April 22, 1848. 1y*17

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

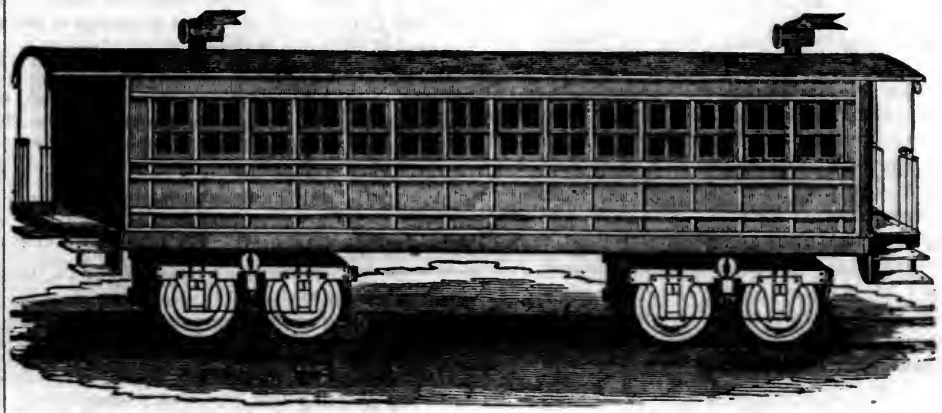
May 6, 1848.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
No. 79 Water St., New York.

26tf

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

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FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
17 Burling Slip, New York.

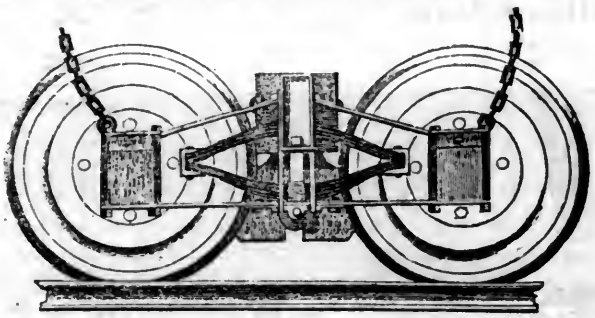
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RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ¾ Flat Bars.
25 Tons of 2¼ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

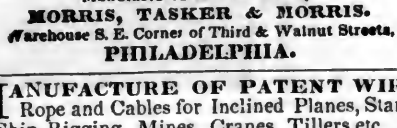
Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.
1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, *Civil Engineer*,
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

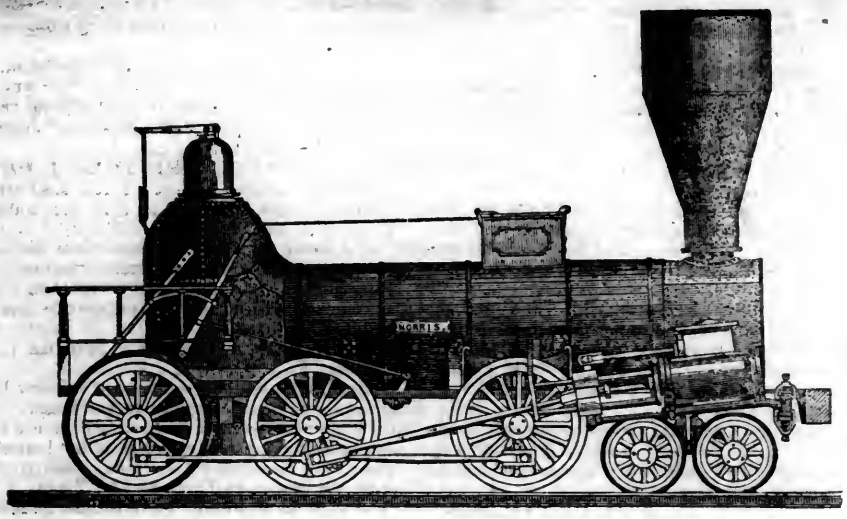
Furnished and fitted at short notice.

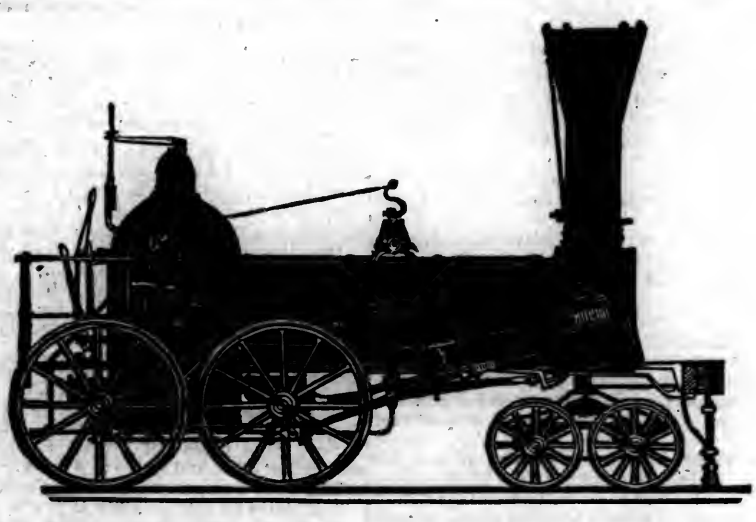
Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

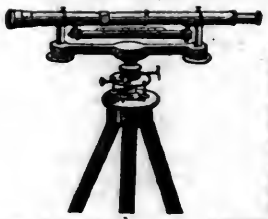
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.

January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington. Philadelphia Co., March 12, 1848. 11tf

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.— PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

5tf DAVID S. IVES Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5¾ p.m.

For Reading 7, 8¾ & 11½ a.m., 2½, 4½, 5¾, 6¾ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4¾ p.m.

From Haverhill at 6½, 8¾ and 11 a.m., 3 and 6½ p.m.

From Reading at 6, 7½, 9½, 11¾ a.m., 1½, 4, 7½, 9½ p.m.

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.

Leave Medford at 6½, 7¾, 10¼, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, April 15, 1848.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelp'a.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.

Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00

Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p.m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.— ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a.m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.

C A. SEAD, Agent, 27 State street, Boston.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Storington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and ½p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

W. RAYMOND LEE, *Sup't.*

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL. Sup't

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m.	and 3½ p.m.
Arrives at	9 a.m.	and 6½ p.m.
Leaves York at	5 a.m.	and 3 p.m.
Arrives at	12½ p.m.	and 8 p.m.
Leaves York for Columbia at	1½ p.m.	and 8 a.m.
Leaves Columbia for York at	8 a.m.	and 2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, conncting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pitsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pitsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12 Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

125 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon	$1 00
" " " Xenia	1 50
" " " Springfield	2 00
" " " Columbus	4 00
" " " Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

17tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup'l. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC Railroad.

—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission.

THOMAS PURSE,
Gen'l. Sup't. Transportation.

y40

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

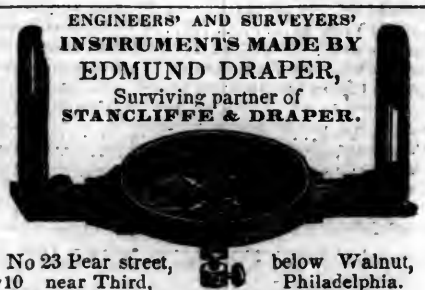
LAP-WELDED WROUGHT IRON TUBES

for Tubular Boilers, from 1½ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No 21.] SATURDAY, MAY 20, 1848 [WHOLE No. 622. VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, May 20, 1848.

Furnaces--Dimensions of--and Iron Manufacture.

It has been suggested to us by a practical iron master, that it would be useful to those engaged in the business, and interesting to others, if those in charge of furnaces, in different parts of the country, will answer the following questions for publication in the Journal, viz: the

Height of each furnace?

Diameter of boshes?

Capacity of furnace?

Distance from foot of boshes to level of tunnel head, at filling plate?

Gas flues—how many feet below filling plate?

Number, and size in inches, of tuyeres or nozzles?

Number of cubic feet of blast per minute?

Number of lbs. pressure of blast?

Temperature in degrees of Fahrenheit?

Number of tons of iron made—average per week?

Kind of ore and fuel used, and average quantity of each required to make a ton of iron. We shall be very much obliged to them if they will furnish us with these, and *other facts*, in relation to the business, for the benefit of those interested in its prosperity.

Letters with this, and other similar information, need not be post paid.

Lower Fares on Railroads.

We learn by the newspapers that that the Boston and Lowell railroad company has reduced its fare from 62½ to 50 cents. If we recollect correctly, we paid *one dollar* for our first passage over that road in 1836, and again on a subsequent visit, 75 cents, and the *last time* we passed over it, 62½ cents. If the newspapers are now correct, the fare in 1848 will be only *half* what it was in 1836—or *less* than *two* cents a mile. The time *will* come when the fare between Boston and Lowell will be less than *one and a half* cents per mile.

The *New Haven and Hartford* railroad, we learn from the same source, have also reduced their fare to $1 for 36 miles, which is as near as may well be 2·8 cents per mile. It will go still lower.

Montgomery and West Point Railroad.

Since we last noticed this road, says the Montgomery, Alabama Advertiser, an addition has been made of seven miles. Opelika, in Russell county, is now the terminus, being seven miles beyond Auburn. The whole length of the road at present is sixty-seven miles, leaving still twenty-one miles to be completed to West Point. As the road progresses the proceeds increase. Every mile is now adding to the amount of produce brought down, and consequently to the profits. We give the proceeds for the month of March, 1847 and 1848.

Total proceeds, March, 1847.....	$4,722 00
" " " 1848.....	8,942 00
Increase.....	4,220 00

The completion of this road to West Point will ensure a connection with the Macon and Western road—and we hope at an early day.

Locomotive Works--Mattewan.

Another is added to the numerous extensive works in this country for the construction of locomotives, at *Mattewan*, near Newburgh, in New York. The "MATTEWAN COMPANY" have long been celebrated for their superior *machinery* for *cotton* and *woollen* factories, and for other purposes, as well as for their superior fabrics of wool and cotton; and now they propose to commence—no, they *have already* commenced—the construction of locomotives, and other railroad machinery, at their establishment, near the line of the Hudson river railroad, for which company they are now at work. From our knowledge of the agent and principal manager of this company, *Wm. B. Leonard, Esq.*, and a slight acquaintance with their engineer, *Mr. Henry Waterman*, we anticipate good work from their shops, and feel quite safe in calling the attention of our readers to their advertisement, in this number.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC.,
Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY,
Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

INDIA RUBBER, RAILWAY SPRINGS AND BUFFERS.

Will our readers look at the advertisement of *Mr. G. M. Knevitt*, of New York, who is the agent for Fuller's patent *India Rubber Railway Springs and Buffers?* By referring to page 263 of the volume of last year, and to page 102 of the current volume, they will find notices and a description of them. It seems that they have been examined, and approved, by Mr. R. Stephenson, Mr. W. Cubitt, Mr. Brunel, and others. They have also been noticed favorably by several of the English Journals, such as Herapath, the Mining Journal, and the Morning Herald—and introduced on some of the carriages of the Great Western, the Eastern Counties, the Midland, and the London and Birmingham railways, from which we infer that they are having a fair test; and we think it may be well worth the attention of railroad managers in this country to give them a trial.

FULLER'S PATENT INDIA RUBBER Railroad Springs.—These Springs are composed of alternate layers of India Rubber rings and Metallic plates, and are superior to those made of steel, for the following among other reasons:—

First—On account of their extreme simplicity, and the impossibility of their being broken or damaged.

Second—Their lightness: the elastic malerial not being more than one-tenth of the weight of steel springs of similar strength, thereby saving many tons of dead weight in a long passenger train—a matter of great economy in working railroads.

Third—The facility with which the power of these springs may be regulated: first, by increasing or diminishing the diameter of the ring; and next, by increasing or diminishing the number of the rings in each Spring.

Fourth—It is a particularly good material for Buffers; because, when first pressed, they are much more elastic, and more easily acted on than steel; whilst the power of resistance, after yielding to a certain extent, increases in such a ratio as to prevent the possibility of the Buffer-head being brought to a *dead hard stop*. And from this arrangement, the most valuable results may be anticipated in cases of collision.

Fifth—The easy motion given to the cars and engines which are fitted with these Springs—there being none of that jarring or vibratory motion so apparent with steel springs; and consequently there is a great saving of wear and tear, both to the cars and the permanent way. The recoil of a steel spring is frequently more harsh than the actual giving of the spring in the first instance, and this recoil is altogether obviated by India Rubber Springs.

Sixth—The cost of India Rubber Springs will be found less than those of steel, and they are calculated to last very much longer.

These Springs and Buffers have now been tried for upwards of three years, under very able superintendence, and with the most decided success. They are in general use upon the principal lines in England and Scotland, (among which may be mentioned the Great Western, the Midland, the London and North-Western, the Eastern Counties, London and Brighton, London and Dover, North Staffordshire, and Caledonian Companies.) They are also used in other parts of Europe. The patentee, therefore, feels justified in stating that he is prepared to furnish not only a more efficient Spring and Buffer than any hitherto in use, but a more durable one, and upon terms which will effect a considerable saving to Companies.

The most satisfactory trials have been made as to the non-liability of this material being affected by extremes of cold or heat; nor will any amount of pressure permanently alter its shape or structure. The patentee therefore submits the invention to the public, with the confident anticipation of its successful and general adoption.

The patent for this invention was granted to Mr. W. C. FULLER, in October, 1846, and the same gentleman has patents for it in England and other countries in Europe. The sole Agent in the United States is Mr. G. M. KNEVITT, who will show models and drawings of the various modes of application to *passenger cars, engines, tenders, wagons, etc.*, and give further particulars as to its satisfactory working; and is prepared to supply the Springs in any quantity, or to grant licenses for manufacturing them.

Principal Office, 78 Broad Street, New York.

And a Branch Office at Messrs JAMES LEE & CO.'S, 18 India Wharf, Boston.

Railroad Connections.

A connection has been made at Providence, R. I., between the Stonington and Boston and Providence railroads, and hereafter passengers will be saved the necessity of changing cars and crossing a ferry—This will be very satisfactory, especially to ladies and families, and will save time. It is intended to make the passage through from New York to Boston in ten hours.

We understand that the citizens of Cleveland, O., have authorised, by an almost unanimous vote, the subscription of $100,000 to the stock of the Pittsburg and Cleveland railroad. This will prove a judicious investment.

The Boston and New York steamboat trains will be run between New Haven and Springfield in two hours, stopping only at Meriden and Hartford, and the afternoon train for Northampton and Springfield leaves Springfield at 2 o'clock, instead of 3, as formerly.

A corps of engineers are now engaged in surveying the route for the railroad from Springfield to Dayton, Ohio. This branch will be a valuable auxiliary to the Sandusky and Cincinnati railroad.

Iron Trade.

The iron business in England is still in a depressed and uncertain state. The *Birmingham Gazette* says that, "at the Walsall, Wolverhampton, and Birmingham meetings, there was scarcely an average attendance, tardily assembled, and not very busily engaged; while at Dudley, on the 15th, the numbers were still more scanty. Flatness and a disinclination to purchase have been the characteristics of each succeeding day, resulting from the very general impression that it would be impracticable to uphold prices throughout the week. This impression seems to have arisen from the supposition that the make of raw material again already exceeds the consumption, strengthened by the report that considerable negotiations for rails had been concluded, previously to quarter day, at receding prices—thus affording ground for the manufacturers to hesitate in taking their supplies until the same concessions should be made to them. On the other hand, the determination of sellers not to give way was spiritedly supported, and orders have consequently been withheld, or given subject to any contingent reduction that may ensue. Upon the whole a limited amount of business has been transacted, and the trade still retrains an unsettled aspect. Large houses and manufacturers of best qualities have sufficient orders to keep them at work, but other descriptions are very slack. The Shropshire pig makers have resolved to maintain their prices, and the rates of Staffordshire are generally ruled by them; but holders of ironstone, limestone and other materials, have at length been compelled to assume a more moderate tone."

In this country it is by no means encouraging.—In Boston, the quotations were on the 13th as follows, viz:—

American foundry, No. 1	$27 a $31
Pennsylvania boiler	— —
Best Brandywine	6c. a 6¼c.

The demand is moderate, and we only notice, says the Shipping List, small sales of Scotch at $29, $30 a $31 per ton, 6 mos. for Eglinton and Gartsherrie brand. In American pig, sales are making in the range of quoted rates.

The Philadelphia Shipping List, of 13th instant, says the receipts have been limited, and the stocks are much reduced, but the demand has been restricted, and prices rather drooping. Sales of 700 and 800 tons No. 1, anthracite, at $26 a $27, and No. 2 at $23 a $25, 6 mos. Small lots of charcoal forge at $27 a $28, and some prime Juniata blooms at $75. A sale of Gartsherrie Scotch pig at $25 per ton—which is a decline. Manufactured iron is in limited demand at steady prices. Sales of boiler plates at 5¼ a 5¼c for No. 1, and 4¼ a 4¼c. for No, 2.

Vulcan Furnace.—It is rumored, says the Cumberland, Md. Mountaineer, that the Vulcan furnace, situated a few miles south of this place, has suspended operations.

Montour Iron Works.—The Danville Intelligencer says that the Montour rolling mill is again in operation, and that the furnaces are in full blast.

Cleveland and Pittsburg Railroad.

The engineers are, we learn from the Cleveland Herald of 29th ult., progressing rapidly with their examinations upon this line. They were at Bedford on the 28th, and were expected at Cleveland early in the first week of May.

The Herald says, "we learn that they found a very feasible line from Hudson to Bedford, more so than was anticipated.

"The Wellsville Patriot learns from Col. EICHBAUM, the chief engineer, that a number of the contractors of the March letting, on the second division, are at work with full force upon their several sections, and that a number of sections on the first division are nearly completed."

Vermont and Massachusetts Railroad.

Extract from a letter dated Northfield, May 4th

"Various circumstances appear to have delayed the completion of the Vermont and Massachusetts railroad. Its present prospects are, however, quite favorable. It is now in operation to Athol, 34 miles from Fitchburg. From Athol to Brattleboro', Vt., 36 miles, the grading is nearly complete; the iron, etc., has been purchased, and the superstructure will be laid this summer.

"Beyond Brattleboro' to Bellows Falls, surveys have been had, and some preparations made; but, on account of present financial pressure, nothing is now being done. I think, however, a railroad between those points must be built within two or three years, at most.

"The project of a railroad across the mountain to Troy, N. Y., has excited much interest and feeling in this part of Massachusetts. Prospects are now extremely favorable for its success. The proposed route involves, as you have probably heard, a tunnel of about four miles in length, through Hoosac mountain. Engineers are, however, extremely sanguine, and it is believed that capital, as well as influence, will not be wanting to push it forward.

"The spring here has been extremely favorable; grading, bridge-building, and other works, are going forward rapidly."

Alton and Springfield (Ill.) Railroad.

"The survey of this road, says the Alton Telegraph of 21st ult., is rapidly progressing; and we are gratified to hear that the line of the route which has been selected, seems peculiarly favorable. The engineers completed their surveys as far as Carlinville last Saturday evening; and, on Monday, began marking out the continuation of the route towards Springfield. We had feared that there would be much difficulty in crossing the waters of the Macoupin without great expense; but we are informed that an excellent crossing has been found, where the cost of bridging will be comparatively slight, and there will be no necessity for any high and extended embankment. If this be so, the grading and bridging the railroad from this point to Springfield will be done at much less expense than any seventy miles of railroad in our country. In fact, the greater part of the road will require little more grading than an ordinary turnpike.

Illinois has just begun to develope her resources. But we venture the assertion, that the early completion of this railroad will open a communication with a ready market, for a section of country unequalled in fertility and climate in the whole valley of the Mississippi, and which within ten years will export more produce than any other portion of the Union of the same extent. That the railroad to Springfield will be completed at an early day we cannot doubt; and that, immediately on its comple-

tion to that point, it will be extended northward towards Peru, and eastward on the great line of travel to the northern cities, is no longer matter of conjecture. The experience of the past few years has established, not only the advantages affored by railroads, but also the increase of business which must and will attend the procurement of the facility; and we look forward with confidence to the report of the experienced engineers who are now engaged upon this road, for the proof of the correctness of these remarks."

GEORGIA RAILROAD AND BANKING COMPANY.

We learn that this road has done an excellent business during the past year.

Their gross earnings have been.....	$477,052 68
Working expenses.....	175,552 81
Net profit.....	$301,499 84

which is over 8 per cent. on the cost of the road and equipments.

This is doing *well*—but not equal to what it will do a few years hence—or when the road shall be completed to Nashville and the Mississippi river, with branches. Then it will *divide* 11 to 12 per ct. per annum.

We are gratified to learn that the stockholders ratified, by acclamation, the decision of the directors to subscribe $250,000 to the stock of the Nashville road. It will be a good investment by itself, in addition to the increase of business it will bring to their own road. This completes the required amount of capital, lacking $250,000—which will of course be taken by the Central road, and the Macon and Western road, and the cities of Savannah and Macon, and the work will now go bravely on.

The completion of this road to Nashville and the Mississippi; and of the Hiwasse road to Knoxville; and of the road to Rome on the Coosa; and of the connection of the Montgomery road to some point on the Macon and Western road, and of the Southwestern from Macon to Fort Gaines, and thence to Pensacola—*all* of which *will* be constructed—will ensure to the cities of Savannah and Charleston, and the *railroads* terminating in them, an amount of business, and a degree of prosperity beyond the calculations of the most sanguine.

Railroads in Virginia and North Carolina.

The Southerner, a spirited and well edited paper, published at Richmond, Virginia, says that

"A convention is to be held in Salisbury, N. C., on the 6th of June, to consider the extension of the Danville railroad from the town of Danville, to Charlotte, N. C., where it will connect with the Charlotte and Columbia road. We hope to hear of a large delegation both from Virginia and North Carolina. We learn from the last Danville Register that the engineers are rapidly progressing with the survey, and under very flattering success.

"The citizens of Lynchburg, Va., have subscribed $500,000 to the Lynchburg and Tennessee railroad. This is the right kind of action. A people so enterprising as those of Lynchburg ought to have this road. We sincerely hope that the people of the southwest will follow the example set them by Lynchburg, and take hold of this matter in good earnest. It is a work of infinite value and importance, and ought to be acted on with spirit and enthusiasm.

"We see a proposition is on foot to connect Nashville with Louisville by railroad. This is the right way to put the energies of the south in play. Let us but know and feel our strength, and we will exert it. Day seems about to dawn.

The above remarks are appropriate, and we should like to see every city and town in Virginia and North Carolina excel the people of Lynchburg.—When they, and the people generally, do more with the same spirit, then may we look for the construction of railroads, by which the *interior* of Virginia shall be turned up to the sun, as a good farmer turns up the *sub*-soil with the improved subsoil plough of Pronty & Mears, and then will Virginia be again *prosperous*, and *populous*—not before.

The people along the route from Danville to Salisbury and Charlotte, in North Carolina, seem to be moving—but whether there is energy enough among them to carry through their project, we shall be better able to judge, when we see what they *do*, as well as what they *say*; meetings, and conventions, and much talk, are requisite to get up the steam, but *alone*, they will not build railroads.

The construction of this line—if it should be done—will be a sad blow to the line from Richmond to Weldon and Wilmington; and it *may* possibly, though we hope not, prevent the connection between Wilmington and the South Carolina roads. It therefore behooves those interested in that line to make their best efforts to complete that connection *first*—if they mean to have it.

There is a *growing* spirit for railroads, and *rival* lines to those now in use, must be looked for. We would always, if possible, avoid the construction of conflicting lines, where those in use are reasonable and just in their charges and management; but those who have *not* their advantages, will not hesitate to avail of them if possible—if they can *obtain* them—therefore those who have them must *look to their own interest*, and not use their privileges in a way to make the public their enemy, nor feel that there can be no *rival* to divide their business.

CONWAY TUBULAR BRIDGE COMPLETED.

This project of Mr. Stephenson has been looked upon with great doubt by some, and almost ridiculed by others, while a third, but not over-numerous class, have anticipated his entire success—consequently its completion has been looked to with much interest by all; and it affords us pleasure to be able to lay before our readers the following brief notice of the subject, from the Railway Chronicle of 22d April, which informs us of its entire success, and establishes, more firmly if possible, the reputation of its projector, as an engineer. The Chronicle says:

"The completion of the great iron tubular bridge over the Conway, and the consequent opening of the Chester and Holyhead railway, are events of such importance, both to the communication with Ireland and to the character of railway engineering in this country, that we must refer to them once again.—We formerly noticed the happy transference of the tube from the workyard to its position between the opposite piers. But it was then at a great depth below its final place. It had still to be pumped up by a Bramah press and steam engine to its height.—The pumping up of this great mass—nearly as large as one of the rows of houses in Great George street—by the two ends, is perhaps the most formidable lift ever attempted. It was effected at the rate of about two feet per hour, and was done uniformly, quietly, and so insensibly from the large mass, that it seemed rather that the ground and sea and houses sank down below the bridge than that the bridge itself was in motion. Trains have passed through with great loads, and without producing vibration; and Capt. Wynne, the inspector general of railways, has simply had to do the duty of giving the lie to the predictions of his predecessor in office, the General Pasley. We understand that Capt. Wynne has sanctioned the whole line, with which he expressed great satisfaction, having made a very minute and critical examination of it. We congratulate Mr. Stephenson in having thus converted one "*impossibility*" more into a practical fact. We hope he will not delay to give the profession an account in detail of all the difficulties encountered and conquered.—His Menai bridge will give him little trouble, we trust after this; of which the difficultics are different in degree rather than kind."

Double, or Mixed Gauge for Railways.

A correspondent calls our attention to the articles on this subject, at pages 20 and 113, of the Journal, in relation to the plan suggested by Mr. Wallace, of the Buffalo and Attica railroad, for running wide gauge cars over their road, should the Attica and Hornellsville road be constructed. Our correspondent thinks Mr. Wallace was not well informed, upon the subject as discussed in England, or not quite fair in not giving credit for his proposed plan—and requests us to publish the following from p. 76, vol. 9—or 1846—of Civil Engineer and Architects' Journal.

"*Double Gauge Railways.*—There is still another view of the question, and that is, the expediency of having, on lines of railways, additional rails, so as to afford the facility of using engines and carriages on both gauges. The expedient, in whatever form adopted, cannot be considered as free from difficulties. If two rails, forming a narrow gauge way, are placed between the two rails which form a broad gauge way, carriages of different gauges may run in the same train, without alteration even of their buffers, which in the ordinary construction of carriages correspond exactly on the broad and narrow gauges, but the expense of such an insertion would probably be not less than an entire change of gauge."

We ought to have recollected this publication in that Journal, but it had escaped us—and it is very probable that Mr. Wallace had not seen it.—[Ed. R. R. Jour.]

OSWEGO AND SYRACUSE RAILROAD.

This road is, we understand, soon to be in operation. Its length will be about thirty-five miles—or three miles less than that of the canal, which is thirty-eight miles—and the common road nearly as long.

This road will connect two of the most important *towns*—or cities, as they now are—and two of the most important navigable *waters*, in the State, *Syracuse* with *Oswego*, and the *Erie canal* with *lake Ontario*. Its cost, without equipments, is estimated at $450,000—or about $13,000 per mile.

The following article, from the American Mining Journal, by one who evidently takes a deep interest in the subject, sets forth its advantages and prospects; and, partial as the writer may, by some, be deemed, from our personal knowledge of its position, and our views of the increase of population and business in the west, we do not doubt the realization of his anticipations.

"This important work, soon to be in operation, will connect the new, prosperous and rapidly improving cities of Oswego and Syracuse, the first of which is the largest town upon the American side of lake Ontario; and the last situated midway between Albany and Buffalo, upon the great line of railway from Boston to lake Erie. It was an early opinion of persons prominent in efforts for internal improvements, that the canals of the State of New York should be connected with lake Ontario at Oswego, and then, that a canal and locks should be made round the falls, along the Niagara river. The connection with Oswego, by canal, has been for many years open, but the great improvement between lakes Erie and Ontario has been left to our neighbors in Canada, and they have, through the Welland canal, opened an important navigation, through which a very rapidly increasing trade is now carried on.—Lake Ontario, one of the most beautiful, navigable, and available of the great lakes, has already a large trade. Property once afloat upon the upper lakes is, with ease and economy, landed at Oswego for transhipment by canal or railroad, to New York or Boston. There is at Oswego one of the largest and best water powers in the country; and already the capacity of the flouring mills there, and the quantity of flour made, exceeds that of any other single point in the world. The Oswego river, sustained by the great number of small lakes in central and western New York, is remarkable for its equal flow, and for its steady power. Indeed it affords a continual pow-

er for twelve miles from Oswego to Fulton. The favorable position of Oswego, and the advantages incident to its manufacturing power, furnish a strong probability, that it is to be a large town, and that the trade and travel through it to the west is to be very extensive. The railroad by which it is soon to be rendered more easy of approach from the land side, will be 35 miles long. Its course from Syracuse is nearly northwest. It is very direct, as must be obvious from the statement of its length. The canal, which has always been considered as quite direct, is 38 miles long, and the common road nearly as long. The grade of the road is as favorable as the line is direct. There is no grade upon it exceeding 20 feet to the mile. It is to be laid with an iron rail about 60 lbs. to the yard. The grading is far advanced, and the road will be completed early the present season. The iron will commence arriving soon, and will be laid down as fast as it is received. At Syracuse, the road connects directly with the road east from that point, so that freight, baggage, etc., may go through from Albany to Oswego without change. The capital stock of the company is $350-000. The estimate recently made for the completion of the work, exclusive of outfit, is $450,000.—There is a substantial, well-managed, and prosperous line of steamboats upon the lake, leaving Oswego daily for Lewiston at the head of the lake, in one direction, and for Ogdensburg, on the St. Lawrence river, in the other.

"The travel in them is already large When this railroad shall be opened, it will, of course, increase, and the prospect of a most favorable business is as flattering as has offered upon the opening of any of the railroads in our country. When this road shall be opened, the distance will be 183 miles from Albany to lake Ontario by railroad. It will be the shortest finished route connecting the lake with the Hudson river. It requires little stretch of the imagination to see that the wheat of the west when once afloat, is to tend to Oswego for manufacture into flour, and that the flour and other staples of the west, in like manner when afloat, will, to a large extent, take the same course. In the same way, and for the obvious reason of economy of management, merchandise from the seaboard for the west will take the same course. The monopoly of transportation which the State of New York attempts to assert, by levying large tolls upon the canals and the railroads, is inoperative upon the lakes; and the advantages of the lessened distance by canal, or by railroad, between Syracuse and lake Erie, in favor of the lake Ontario route, will be always decided in its favor. From Syracuse to Buffalo the distance by the present railroad line is 178 miles, and by the canal 193 miles. Toll is required on property for the length of the canal. Thus, there is the difference of State tolls between 38 miles and 193 in favor of the Oswego route. A system of tolls, based upon a government monopoly cannot long be sustained against enlightened public sentiment. The farmers of western New York will not long consent to pay a tax upon the transportation of their live cattle to market over railroads, in which the State has no more interest than it has in their wagons, or in a line of stage coaches. The business upon most of the railroads in New York and New England has exceeded the calculation of their projectors, and upon all, it is steadily increasing. The road from Oswego to Syracuse, from the considerations stated, cannot fail to be well sustained, and in the prospect of a railroad from Hamilton, at the head of lake Ontario, to Detroit, it has, in the future, an additional importance."

Camden and Amboy Railroad, and Delaware and Raritan Canal, Report.

We published in our last, a memorial, to congress in relation to a *post road* from Philadelphia to New York, and in which the Camden and Amboy railroad company was charged with measures oppressive to the travelling and business community. We also referred to a *pamphlet* on the subject, and said, in our introduction to that memorial, that "we shall refer again, and at length, to this subject in our next, and subsequent numbers," but we conclude to give the *report* of these joint companies, for the years 1840 to 1847, *both inclusive*, and then our readers will have the official exposition of the company's proceedings before them, by which to judge of the accuracy of the statements of "a citizen of Burlington"—when we refer to them. We do this in justice to the company, as we have no desire, or intention, to misrepresent, or prejudice, them in the estimation of the community, though we have a very strong desire to contribute our aid in remedying the cause of complaint which is felt by every person who passes, or sends freight, between the two cities.

By referring to vol. X—or IV new series—pages 253, 281 & 313 of the Journal for 1840, may be found the previous report of the company, referred to at the commencement of this, which, like this, covers several years doings, and is but *little*, if any, more *intelligible*, to the uninitiated than that which we now give.

We shall follow this report by extracts from the pamphlet referred to—from which some light may possibly be obtained.

The directors of the Delaware and Raritan canal and Camden and Amboy railroad and transportation companies, congratulate the stockholders on the continued and increasing prosperity of their works.

In order to exhibit at a glance, a view of the affairs of the companies and their business for a series of years, they herewith submit a general statement for the last eight years, from 1840 to 1847 inclusive; by which a connexion is made with the full and elaborate report to the stockholders, at a special meeting called for that and other purposes, at Bordentown, on the 29th day of January, 1840.

They also submit herewith, statements of the joint and separate annual receipts and expenditures of the canal and railroad companies, that the increase on each work separately may be seen—the number of passengers and tons of merchandise carried over the railroad, and of merchandise and coal through the canal—the transit duty paid to the State of New Jersey upon passengers and merchandise by each company—and tables explanatory of the expenses of the years 1844–5–6–7, during which time so much was added to the capital of the railroad company and paid from the earnings of that work, and included in the disbursements of the several years specified in the table—and a statement of the amount and kind of business done on the canal during the past year.

The increasing business on the railroad during the few past years, rendered necessary a very large outlay of capital, properly and economically to conduct it. Since the date of the detailed report of 1840, eight steamboats and steam-tugs have been built or purchased, viz: the John Stevens, John Potter, Transport Princeton, Rainbow, Camden, Amboy, and Washington. Their force in locomotive engines, passenger cars, freight cars, and crates, and their docks, and buildings at each terminus of the road, have also been greatly enlarged and increased in number.

It also became necessary to relay a large portion of the road, between Bordentown and Amboy with new and heavy rails. All the vast sums required for these purposes have been furnished by the travelling account, and are charged, (as will be seen in the tabular statements referred to,) from time to time, in the annual disbursements of the company.

In consequence of these large outlays, the profits of the companies, applicable to dividend, have not sustained an equal proportion, or kept an equal pace with the gross receipts; although their dividends amount to 12 per cent. per annum; the increase in the gross receipts being as 100 : 224, whilst the net profits bear only the proportion of 100 : 180. But this is only a temporary inconvenience for a permanent good; for the expenditures incurred for the improvement of the road, the enlargement of the works, and the means of transportation for passengers and freight will annually produce a revenue far beyond the interest of their cost, and add greatly to the value of the capital of the companies. And also at the same time it enables the company to give those facilities and accommodations to the public, which their interest, duty, and feelings alike prompt them to afford.

During the past year an outlet lock has been constructed under the authority of a law of the State of Pennsylvania, from the Delaware division of their canals to the river Delaware at Wells' Falls; and a corresponding outlet lock has been also erected by the Delaware and Raritan canal company, and the channel of the river at that point deepened so as to admit a communication between the Pennsylvania and New Jersey canals for boats of the largest class that navigate the Lehigh canal. The importance of such a communication to the Lehigh district can scarcely be realized, for a great saving upon every ton of coal transported by this means to New York will be effected: and the revenue of the canal will, in consequence, be thereby greatly augmented. These locks and improvements are so far completed that they can be used at the opening of the navigation in 1848.

The canal company have also erected during the past year an additional outlet lock at Bordentown. The delay occasioned at that point by the large trade of the past season, has rendered this measure, in the opinion of the board, indispensable; and if the business continues to increase for a few years to come in the proportion which it has for a few years past, and which, in all probability, will be greatly augmented by the communications heretofore referred to, it will become necessary within a few years to double the locks from Trenton to New Brunswick.

The increasing trade on the canal will appear, from the tabular statements annexed, from which it will be seen that the receipts of the canal have gradually and regularly increased with the exception of the year 1846, when the Schuylkill navigation was closed in consequence of the enlargement of their locks and works, from $79,467 74 in 1840, to $255,501 51 in 1847, and the quantity of coal carried through it has also increased from 113,078 tons in 1840, to 540,200 tons in 1847.

In explanation of the heavy disbursements of the canal company for 1845 and 1846, it may be proper to state that they were occa-

sioned by the expenses in heightening and strengthening the banks of the feeder. This has been done in the most substantial manner under the directions of Ashbel Welch, Esq., the engineer of the canal company, under whose direction and supervision, and on whose plans have been constructed the outlet lock at Wells' Falls and Bordentown.

In conclusion, it may not be unimportant or without value to the stockholders, to be informed in regard to the interest the State of New Jersey has in their works.

That the State might receive the dividends thereon, 2,000 shares of the stock were transferred by the companies in consideration of a grant by the State of certain valuable rights and privileges, of which ONE was the exclusive right to transport passengers and merchandise by railroad across the State between the cities of New York and Philadelphia. And in addition to the dividends on these shares, the State receives a transit duty upon all passengers and merchandise transported across the State between the Delaware river and Raritan bay and river, and between Trenton and New Brunswick. The sums paid to the State of New Jersey during the past year in dividends and transit duties, amounts to $81,301 71, or nearly ONE FOURTH of the net revenue of the works; and the whole paid to the State, from these interests, since the commencement of the operations of the companies amount to $671,647 52.

All which is respectfully submitted.

By order, JOHN POTTER, Pres't,

Joint Board of Directors of the Delaware and Raritan Canal and Camden and Amboy Railroad and Transportation Company.

JOHN R. THOMPSON, Sec'y Joint Board.

Bordentown, January 12, 1848.

Annual Statement of Receipts and Expenditures of the Camden and Amboy Railroad and Transportation Company.

Years.	Gross receipts.	Expenditures.	Net receipts.
1840....	$548,173 87...	$265,457 77...	$282,716 10
1841....	550,015 68...	286,664 67...	263,371 01
1842....	635,335 89...	286,070 93...	349,264 96
1843....	695,111 27...	298,951 78...	396,159 49
1844....	780,709 17...	379,235 01...	401,474 16
1845....	882,751 43...	560,408 22...	322,343 21
1846....	1,022,253 10...	597,398 94...	424,854 16
1847....	4,150,383 26...	741,917 96...	408,465 30

Annual Statement of the Receipts and Expenses of the Delaware and Raritan Canal.

Years.	Gross receipts.	Expenses.	Net receipts
1840....	$79,467 94....	$40,769 62....	$38,698 32
1841....	81,543 44....	49,509 09....	32,034 35
1842....	90,334 25....	53,012 32....	37,321 93
1843....	101,289 67....	53,122 60....	48,167 07
1844....	131,490 71....	47,035 72....	84,454 99
1845....	167,811 58....	60,049 59....	107,761 99
1846....	161,177 03....	78,309 88....	82,867 15
1847....	255,501 51....	93,794 45....	161,707 06

Annual Statement of the Joint Receipts and Expenditures of the Railroad and Canal.

Years.	Gross receipts.	Expenditures.	Net receipts
1840....	$627,641 81...	$306,227 39...	$321,414 42
1841....	631,559 12...	336,153 76...	295,405 36
1842....	725,670 14...	339,083 25...	386,586 89
1843....	796,400 91...	352,074 38...	444,325 56
1844....	912,199 88...	426,270 73...	485,929 15
1845....	1,050,563 01...	620,457 81...	430,105 20
1846....	1,183,430 13...	675,708 82...	507,721 31
1844....	1,405,704 77...	835,712 41...	569,992 36

The transit duties on passengers and merchandise carried on the road and canal are included in the expenditures above, amounting to $273,721 12.

Extraneous Expenses beyond the ordinary business of the Camden and Amboy Railroad and Transportation Company, chargeable to Capital.

	1843.	1844.	1845.	1846.	1847.
Iron tug "Amboy".....	17,162 79	6,650 84	659 31		
Enlarging St. B. Independence.....		6,000 00			
Iron tug boat "Camden."		13,429 36	7,935 58		
New wharf, Amboy.....		1,412 78	524 18		
La Fayette wharf, Philad.		4,035 88	6,851 40		
Grading Camden depot..		1,943 33	1,072 40	1,077 24	227 93
Camden engine house....		1,545 83	879 80		
New tracks, Camden....		1,285 98	449 81		
New wharf, Camden....		1,126 52	3,240 98	4,471 66	
New car house, Camden.		2,958 70	5,278 99		85 00
New car house, Amboy..		739 75	2,106 73		
Steamer "John Stevens."		9,460 91	83,681 14	14,906 32	18 85
Steamer "Transport."...		37,321 38	8,088 64		
N. Brunswick eng. house.			807 31		
Ross' wharf, Philad'a....			8,145 74		
Burlington wharf.....			3,566 91	1,358 24	72 83
Johnson's wharf.....			3,008 28		
Smith's shop, Bordentown.			3,195 34		
Carpenter's "			4,435 96	1,137 45	
Crate house, "			504 53	894 69	
Iron rails.....			15,806 40	59,285 33	57,000 00
Steamer "Rainbow".....			10,800 00		
Tug boat "Princeton"...			22,953 33	25,387 24	250 00
Steamer John Potter....			3,994 05	41,411 09	28,346 34
Transp'n house, Amboy..				1,552 59	2,595 02
Camden transport'n house.				1,157 30	
Dwellings & other build's.				8,911 72	
Paint shop, Bordentown.				1,283 52	
Engine house, "				1,483 40	
Trenton car house.....					4 997 14
Bordentown car house...					2,663 02
New wharf, Bordentown.					3,589 58
Camden wood sheds.....					1,874 69
Camden wharf.....					1,384 97
Steamboat Washington..					16,431 92
New cars, (say).....					10,000 00
Locomotives, (new).....					16,000 00
Capital.....	2,382 02				
	19,544 81	87,911 26	197,986 83	164,307 89	155,537 29

Annual Statement of Through Passengers on the Camden and Amboy Railroad.

	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.
$3 pass'grs, via S. Amboy	59,772½	39,377½	33,594	32,483	30,443	32,483	32,069½	35,236
Forward deckers	28,909	25,103	29,473	23,483	26,046	26,735	135,501	43,700
$4 pass., via B. road & N.B.	71,431½	89,396½	77,658	82,061	111,784	111,842½	14,902½	122,136
Forward deckers					873 5-6	15,824½	16,624	20,940
	153,112½	153,876½	140,725	138,027	168,541 1-12	188,884½	199,096½	222,921

Annual Statement of the Transportation on the Camden and Amboy Railroad.

Y'rs.	Through transport'n.	Way transport'n.	Agg. rec'ts
'40.	11,325. $79,774 13.	3,356. $12,855 44.	$92,629 57
'41.	14,652. 104,731 49.	3,565. 13,583 68.	118,315 17
'42.	13,200. 90,471 55.	4,130. 15,780 06.	106,251 61
'43.	19,511. 133,658 94.	4,152. 15,935 85.	149,594 79
'44.	24,902. 167,262 69.	6,506. 21,432 88.	188,695 57
'45.	25,372. 170,878 76.	7,445. 28,611 13.	199,489 89
'16.	26,628. 185,522 47.	13,276. 50,417 78.	235,940 25
'47.	36,707. 253,462 27.	16,981. 64,527 57.	317,989 84

Statement of the Weights of Merchandise carried through the Delaware and Raritan Canal from 1834 to 1847 inclusive.

Years.	Weight of merchandise. Tons.
1834	12,459
1835	57,736
1836	88,467
1837	122,488
1838	119,475
1839	127,398
1840	172,120
1841	174,884
1842	223,268
1843	240,049
1844	350,384
1845	462,733
1846	424,702
1847	700,408

Statement of the Trade on the Delaware and Raritan Canal for the season of 1847.

Coal from Richmond in boats and barges	205,988
" " sail vessels	100,003
Coal from Schuylkill in boats and barges	98,341
" " sail vessels	1,200
Coal from Bristol in boats and barges	107,196
" " sail vessels	27,471
Total number tons of coal	540,200
Coal passed east at 20 cents	21,196
" north "	61,710
Coal passed Newark at 20 cents	27,528
	111,135

93,432 barrels flour.
552,621 bushels grain.
24,710 tons iron.
15,133,288 feet lumber.
86,041 tons maize.

Statement of Coal passed through the Delaware and Raritan Canal in the following years:

Coal in 1835	17,823 tons.
" 1836	38,426 "
" 1837	68,426 "
" 1838	51,245 "
" 1839	57,756 "
" 1840	113,078 "
" 1841	119,247 "
" 1842	171,755 "
" 1843	193,506 "
" 1844	267,496 "
" 1845	372,076 "
" 1846	340,000 "
" 1847	540,200 "

Annual Statement of the Transit Duties paid the State of New Jersey by the Delaware and Raritan Canal, and Camden and Amboy Railroad and Transportation Companies.

In the year	By the Del. and Raritan canal.	By Camden and Amboy railroad.	Paid by the joint companies.
1840....	$5,799 43....	$19,585 66½....	$25,385 09½
1841....	1,726 89....	20,071 72½....	21,798 61
1842....	10,904 24....	19,151 46½....	30,055 71
1843....	6,614 52....	19,679 70	26,294 22
1841....	10,158 38....	23,935 84	34,094 22
1845....	12,805 24....	26,853 55	39,658 79
1846....	10,718 29....	28,414 49	39,132 78
1847....	24,284 68....	33,017 02	57,301 70
	83,011 67....	190,709 45	273,721 12½
Transit duty paid by canal company in 1847			$24,284 68
By railroad company in 1847			33,017 02
			57,301 70
Dividends*			24,000 00
Total			81,301 70

* On 2,000 shares of stock transferred to the State by the company for its privileges.—[Ed. R. R. J.]

Whole amount paid since the commencement of operations in transit duties and dividends.....$671,647 52

To the President and Directors of the Delaware and Raritan Canal Company:

GENTLEMEN—During the past season a connection has been formed between the Delaware division of the Pennsylvania canal and our feeder, at the head of Wells' Falls; and is now so far completed that it will doubtless be ready for use on the opening of the navigation in the spring. This connection is made by a lock and short canal from the Pennsylvania canal to the Delaware, and by similar works from the Delaware to the feeder, and also by the removal of a large quantity of rock from the bed of the river, to complete the channel between the two locks. The boat will cross the river (about 800 feet from lock to lock,) by a wire rope ferry on the ordinary plan. A water power on the Jersey side can be used if necessary, to pull the loaded boats across.

The distance saved by coal boats or other boats going from the Lehigh to New York, is twenty-five miles each way, or fifty miles for each cargo of coal; and the saving of expense has been estimated at about twenty-five cents per ton.

The additional outlet at the western termination of the canal, authorized by your board on the 2d day of April last, will be completed early next season. This work is necessary, in consequence of the arrival and departure of a large number of vessels at once at high water, and the great convenience of passing in and out as near that time as possible.

The character of the ground on which the new lock was to be built, rendered it necessary to depart entirely from the ordinary plan of building locks. A wooden lock 173 feet long was commenced on the high ground adjoining the river, made of large timbers jointed, dowelled and dovetailed together, and fastened by 30,000 trenails, (most of them 2 inches in diameter and 26 inches long,) and the structure was strongly tied and braced, caulked between the timbers, and then lined with water-tight planking. This was built up to about two-thirds of the intended height, launched as a ship is launched, floated into the pit previously excavated to the depth of ten feet below low water, by a dredging machine, and levelled by a 50 foot scraper, and then sunk and settled upon its bed by a weight of 2,000 tons. No inequality in the distribution of this weight, nor any other cause, has been sufficient to bend the sides of the lock perceptibly. Great care is of course taken to secure the foundation, and firm ground is made around it by gravel brought from a distance.

The canal and works of the company are in good order, the removals and improvements exceeding the depreciation.

I am, gentlemen,
Very respectfully, yours,
ASHBEL WELCH,
Engineer Delaware and Raritan Canal Company.
Bordentown, January 10th, 1848.

To the President and Directors of the Camden and Amboy Railroad and Transp. Co.

GENTLEMEN—In accordance with your directions, I transmit to you a statement of the improvements that have been made on the Camden and Amboy railroad and its branch from Bordentown to New Brunswick, since the year 1840; including its condition at the present time.

In 1841 the flat rail between Bordentown and Trenton, 5⅞ miles, was replaced with the T rail weighing 47½ lbs. per yard; also ⅞ of a mile between Bordentown and Camden, near the Pensauken creek; thus abolishing from the whole route the use of the flat rail.

Between Bordentown and Amboy there have been relaid 16 miles of new road with iron rails weighing 47½ lbs. per yard; also 10·1 miles with iron weighing 64½ lbs. per yard.

From Bordentown to Camden, 2·4 miles, have been relaid with iron rails weighing 47½ lbs. per yard; also 1·6 miles with new rails weighing 64½ lbs. per yard. The road relaid was put down with new timber. The heavy rails have all been laid within the last two years.

The road from Camden to Amboy has been much improved by replacing the broken bars with the best of the rails taken up from the road relaid. The road has also been much improved by many new sleepers; very few of the original sleepers remain.

The branch railroad, between Bordentown and New Brunswick, has been kept in good repair, but will require much more outlay for some years to come, than during the past season. The road has been laid 8 years, and in consequence, the sleepers are fast decaying. Extensive improvements have been made at Amboy, Bordentown, Camden, Trenton, and New Brunswick, by the erection of car and engine houses, wharves, etc. A description of these will be given in detail in a memorandum accompanying this letter.

The turnouts originally laid with wood rail and flat iron, have been relaid with the T rail. To this two miles have been added, making the total length of turnout 8 miles 36 chains. I am, gentlemen, very respectfully, your obedient servant,

WM. COOK, *Engineer.*

Princeton, N. J., Jan. 1st, 1848.

RAILROADS IN NEW HAMPSHIRE.

The following editorial remarks from the American Mining Journal and Railway Gazette, of 26th April, give a concise view of the railroad interest, and its history, in the Old Granite State. It shows how *peculiar*—not to say absurd—theories obtain control of the people; and also what shifts they will finally resort to, when they find themselves in error, rather than to come out honestly and frankly, to accomplish desirable objects.

Political leaders gained popularity by the doctrine of "no corporations," but the people did not keep pace with their neighbors, under the laws which required railroad companies to obtain the *consent* of every man through whose land they had occasion to pass, before it could be taken for the road—consequently, for seven or eight years no railroads were constructed in New Hampshire: but the rapidly increasing prosperity of other States, and especially of Massachusetts, led some of the prominent men of the State to devise a plan for taking land for railroads, without the consent of the people, yet preserving the old law—which was done by giving the power to take the land required, to *commissioners*, and the *governor and council*, instead of leaving it with the legislature—the immediate representatives of the people—and the courts in the respective counties, as in other States. It is of little consequence to us *how* the right of way is granted, so that it is done, at a *fair rate* of compensation to the land owner, and on liberal principles to the companies, and the roads are made; though we dislike to see our native State assuming to be be so much more just to the people than other States, and yet prohibit them from legislating for themselves.

"This State, in active railroad enterprise, is second only to Massachusetts. With but a small strip—a mere point of seaboard—and with no natural channels of communication extending into its interior, it possesses but few advantages for trade except those which it creates, and has no outlets for its products but such as are artificially provided. And yet its means of wealth are numerous, and need only the facilities which an easy access to market affords, to be made available. No State in the Union is better supplied with a well distributed water power: it abounds with quarries of various kinds of rock; it has heavy forests of excellent timber, suitable for all the purposes of building; is possessed of very fine agricultural districts, that yield largely of the fruits of the earth, and furnishes in its mountain beds rich deposits of mineral ores capable of being easily and profitably worked.

"For the proper development of these resources, and bringing them into the use which creates their value, New Hampshire peculiarly needs the benefits of an extended railroad system. Although somewhat slow in apprehending this, her people seem at length to have become fully convinced of the fact, and to have carried their convictions into resolute action. The first charters for railroad purposes were granted by this State in June, 1835. This year three railroad companies were incorporated—the Nashua and Lowell, the Boston and Maine and the Concord. The next year the Eastern railroad company was incorporated. None of these roads, perhaps, can be strictly regarded as New Hampshire enterprises—the charters granted by this State having been for extensions, or connecting links of roads already projected and commenced elsewhere. From 1836 to 1844, a period of eight years, no railroad company seems to have been incorporated, or, if incorporated, none that effectually organized. During this period, a jealousy of incorporations of this kind had arisen in the State, and the legislature would grant no charters unless containing provisions that rendered them wholly inoperative. A general law was passed providing 'that no railroad corporation shall take any land for the use of such incorporation without the consent of the owner thereof.' The operation of this was to put an effectual stop to the construction of any further roads in the State, as it became impossible to secure routes for the same.—The inconveniences and mischiefs, experienced from this check upon an enterprise so essential to the prosperity of the State, produced at length such an active and determined opposition to the law, as to lead to its *virtual* repeal. At a session of the legislature in December, 1844 an act was passed providing for the appointment of railroad commissioners, giving them authority, whenever any railroad corporations chartered by the State, should be unable to purchase the lands for their roads of the owners on the route of the same, from disagreement as to the rates to be paid, and whenever application should be made to them therefor, to make a survey of the route proposed by the corporation applying, within the limits prescribed by their charter, and, *if in their opinion, the public* good would not be promoted by laying out the proposed road, to proceed no further, otherwise to report their decision to the governor and council, and if approved by the governor and council, to lay out the road as surveyed, and in conjunction with the road commissioners in the several counties where the lands taken may lie, to assess

damages for the same, (a right of appeal being granted to the court of common pleas of the county) and make report of their doings to the governor and council. Thereupon the governor and council are, upon written application therefor, to lease to such corporation the right to construct their road over the route laid out for a term not less than one hundred years nor more than two hundred years. A right of appeal is provided for, whenever the decision of the commissioners shall be adverse to the laying out of the proposed road. Under this law railroad charters are now granted in New Hampshire. At the same session at which this law was passed, the Cheshire, the Northern, and the Boston, Concord and Montreal railroad companies were incorporated. Since then, charters have been granted to the following additional companies, viz: the Nashua and Wilton, the Portsmouth and Concord, the Sullivan, the Franklin and Bristol, the Grafton, the Atlantic and St. Lawrence, the Manchester and Lawrence, the Cocheco, and the Conway and Meridith railroad companies. The number of railroad companies therefore incorporated by New Hampshire is seventeen. Of these, five have their roads built and in operation; eight are in progress of construction; and of two, the routes have been surveyed and measures are taking to commence operations under their charters. We do not learn that anything has been done with reference to the other two. Notice has been given of an intention to apply to the next legislature for the charter of a railroad from Manchester to Claremont on the Connecticut river. A road is also projected from Concord to Fitzwilliam, on the Chester road, following the Contoocook river. We shall, in our next number, give some particulars of the roads that have been built and are building in this State, showing their respective lengths, the number of miles already finished, the dividends paid by the different companies on their capital stock, and such other facts of interest in relation to these roads as we may be able to collect."

SCREW PILING.

At a meeting of the Institution of Civil Engineers, on the 22d Feb., a paper was read by Mr Michell on submarine foundations, particularly *screw piling* and moorings. The Railway Chronicle says:

The author restricted himself almost entirely to the description of the works executed by him with the screw pile, as that had been chiefly employed for supporting structures on loose sand, or mud banks wholly or partially covered by the sea, where it had been previously considered very hazardous, if not impracticable, to erect any permanent edifice; and in his narrative he scrupuously avoided all comparison with other modes of proceeding, even when they had the same object.

The origin of the screw pile was the screw mooring, which was designed for the purpose of obtaining for an especial purpose a greater holding power than was possessed by either the ordinary pile or any of the usual mooring anchors or blocks, of however large dimensions. It was proved by experiment that if a screw with a broad spiral flange were fixed upon a spindle, and forcibly propelled by rotary motion to a certain depth into the ground an enormous force would be required to extract it by direct tension, and that the powers employed must be sufficient to drag up a mass of the form of a frustrum with the cone reversed—the base being at the surface of the ground, and the section of the apex being equal to the diameter of the screw. The extent of the resisting mass must of course depend upon the natural tenacity of the soil. Even on this reasoning it must be evident that a vertical force was calculated upon; but practically, that seldom or never occurred, the angle of tension and the curve of the buoy cable again gave the moorings greater power. This was found to be correct in practice, and the application of these moorings became very extensive. An arrangement was made with the port of Newcastle upon Tyne, by which, for the sum of £2500, the right of fixing the moorings in the Tyne was given, and Mr. Brookes, the engineer, showed that last year, while in the neighboring port damage was done to the shipping to the extent of nearly £30,000, no injury was sustained in the Tyne—entirely owing to Mitchell's screw pile moorings. It naturally occurred to Mitchell that the same means of resistance to downward pressure might be used, and he proposed to apply it, for the foundations of beacons, lighthouses, and other structures, which for maratime purposes it might be desirable to place upon sand and mud banks where hitherto it had been considered impracticable to place any permanent edifices.

In the year 1838, a plan for a structure of this nature for a lighthouse on the Maplin Sand, at the mouth of the Thames, was laid before the corporation of the Trinity House, supported by the opinion of James Walker, Esq., their engineer. The nine iron piles 5 inches in diameter, with screws 4 feet in diameter, were accordingly driven 22 feet deep into the mud, and with proper precaution they were allowed to stand for two years before any edifice was placed upon them. The lighthouse was subsequently constructed, and as was testified by Mr. Walker, has stood perfectly until the present time. Pending this probation it was determined to erect a lighthouse to point out the entrance to the harbor of Fleetwood on Wyre, and under the advice of Capt. Denham, R. N., the screw piles were adopted. The spot fixed on was the point of a bank of loose sand, about two miles from the shore; seven iron piles with screws of 3 feet diameter were forced about 16 feet into the bank, and upon them timber supports 48 feet in vertical height were fixed to carry the house and lantern. This structure was completed in six months, and was perfectly successful, never having required any repairs to the present time. A similar lighthouse was erected near Belfast, and since then several others with a great number of beacons have been fixed in situations heretofore deemed impracticable.

A project was started by the Earl of Courtown, in the year 1847, for adding to the length of the pier at the harbor of Courtown on the coast of Wexford; which had proved an entire failure, from the channel between the solid pier being continually choked up with sand. Iron piles with screws of 2 feet diameter, to be driven from 11 to 15 feet into the sand and blue clay, were decided to be used in order to form an open jetty, through which the sand could be washed by the current, and the platform could be used for loading and discharging the shipping. The surf was so heavy on the coast that the usual barges or floating rafts could not be used for putting the piles down; so an ingenious plan was designed by Messrs. Mitchell for projecting a stage forward from the solid part, rigging a large grooved wheel upon the top of the pile, passing an endless rope band around it and around a pulley fixed 150 feet back—and then by a number of men hauling upon the band, a rotary motion was communicated to the pile, which screwed it down very fast. By these means one bay of the pier 17 feet long, was finished daily, even in very rough weather. The entire length of the jetty was 260 feet, in breadth 18 feet, with a cross head 54 feet long, with landing stages at each end and two lines of railway throughout. The entire cost of this extension was £4150, or about £47 10s. per current lineal yard, an extremely small sum compared with the cost of stone piers; but even that was more than the expense would be now, as the system of work is better understood and materials are now cheaper.

Ample testimony was borne by engineers of eminence, and men whose maritime experience gave weight to their opinion, on the superiority of Mitchells screw piles and moorings over every other system for holding buoys, or for supporting beacons and lighthouses; and their use was suggested for the foundation of bridges, viaducts and numerous railway and other works, as well as a multiplicity of applications which had not hitherto been thought of. The discussion was adjourned.

Feb. 29.—Mr. J. FIELD in the chair.—The proceedings were commenced, by reading communications relative to Mitchell's screw piles and moorings from several engineers and naval officers, who were prevented by absence from giving their personal testimony in favor of what they termed "this most useful invention." Mr. W. A. Brooks gave an account of the method of laying down the moorings at Newcastle upon Tyne, under his directions. A heavy chain formed of 3¼ inch round iron in links of 3 feet long each, was stretched along the bed of the river, in the direction of the current. To this chain, beneath each tier, was attached a 2½ inch studded mooring chain, fixed to the head of a screw mooring; another screw being also placed beneath each tier and driven down between 10 and 20 feet into the clay, and sometimes full a foot into the shale rock. The screws were 4 feet in diameter, and were placed in depths varying from 15 to 24 feet at low water spring tides. They were screwed down to the depth of 15 feet in an hour and a half, and sometimes 21 feet in 2 hours. Each mooring screw was intended to have borne the strain of four heavy ships; but during the last winter, the port was so crowded that more than double the proper number of vessels were moored upon each, and yet there were no signs of weakness; and while nearly £30,000 of damage was done at Sunderland, during a heavy storm, no casualties occurred at Newcastle, which Mr. Brooks stated was entirely owing to the sound holding of the screw moorings. He argued, therefore that the small sum of £2500, paid by the harbor commission of Newcastle for the right to put down these moorings was a very wise expenditure.

Mr. T. Smith, pilot master of the port of Shields, corroborated Mr. Brooks' statement.

Capt. Washington, R.N., had in the course of his surveying duties, seen the screw moorings in almost every position, and had heard them universally eulogised as being the best and safest moorings hitherto known. He strongly recommended their employment.—He had also examined carefully the screw pile lighthouses, and had every reason to be satisfied with them, as affording a means of placing lighthouses and beacons where they were before impracticable, and enabling floating lights to be generally superseded by fixed lights, which latter he proved from documentary evidence to be one third less annual cost than the former, and certainly more useful to sailors. For in spite of all the care, attention and even lavish expenditure of the Trinity board, to moor the lightships securely, they did go adrift just at the time they were most required. He therefore advocated fixed lights in every situation where a foundation could be obtained; and he believed with the screw pile there were scarcely any situations where this could not be accomplished. Messrs. Walker, Cubitt, Rennie, Murray, Moorsom, Mitchell, Scott Russell and others took part in the succeeding discussion, adducing instance of the efficiency of the moorings and the piles, and of their applicability to numerous engineering works, for which they expressed their intention of employing them It was stated that the high price hitherto charged for the right of using them, had somewhat retarded their general introduction; but it was explained that Mr. Mitchell had feared to entrust to others the fixing of them, lest a failure might ensue before his system was perfected, which however he now thought it was. Now, however, as the right of granting licences for their use was transferred to men of business who had purchased it, there was no doubt of their being brought within the reach of every application.

It appears from the testimony of some of the ablest engineers, that the screw pile, or mooring, has been eminently successful.

James River and Kanawha Canal Company's Report for 1847.

Continued from page 314.

2. STATE OF THE FINANCES.

On the 1st of July, the company having complied with all the previous requirements of the act of the 1st of March, 1847, received from the treasurer of the commonwealth certificates of State stock to the amount of $242,000, being the first instalment of the loan for the resumption of the works under authority of that act. Of this amount, $163,850 have been sold, chiefly, if not wholly, to citizens of the State, at an average premium of 1¾ per cent, with an an advance by the purchasers for the accrued interest, at the dates of the sales, to an aggregate of $3,649 61.

This large amount of sales, so much in advance of the time when the money can be used, must of course result in a considerable loss of interest; but in view of the great drain of cash funds consequent upon the foreign war in which this country is involved, and of other causes tending evidently to a financial crisis, the board deemed it best, even at such a sacrifice, to secure all the floating capital seeking this kind of investment while it should be available, and while the company had undivided possession of the market.

The usual financial statement of the secretary for the last fiscal year (ending with the 31st of October,) is herewith communicated. [App. A] Taking the receipts on the one hand and the disbursements on the other, from the different classes of account of which the statement is composed, and bringing them together in a more succinct form respectively, and in juxtaposition, they will appear to have been as follows:

Receipts.

On hand at commencement of the year..		$3,565 26
Net revenue from the Kanawha road	$2,773 73	
Net revenue from the Kanawha river	6,253 76	
	9,027 49	
Less amount overpaid by agent last year	29 72	
Realized		8,997 77
Net revenue from the Blue Ridge turnpike and ferry		154 61
Gross receipts from the new canal		203,605 60
Net revenue realized from the dock		5,368 94
From rents		8,155 54
From delinquent stockholders		3,987 88
From interest		2,038 19
From sale of State stock, (loan for the resumption of works)		163,850 00
From premium and accrued interest on the same		3,649 61
From State's loan of interest money		57,559 36
From bills payable		5,764 80
From B. E. Poitiaux, agent, (balance of collections)		376 61
From S. & P. Garland		4 61
Total		467,078 81

Disbursements.

For expenses and repairs of the canal	$54,419 83	
For salaries of agents on the canal	16,922 92	
For annuity to the old James river company	21,000 00	
For int. on guaranteed loan	85,215 00	
For interest on loan of State stock	15,000 00	
For interest on bond given to the State	24,178 08	
For salaries of officers, (charged half to revenue and half to new improvements)	4,781 25	
For pay and mileage of directors, (charged in same way.	1,541 20	
For construction of canal, (old bal. due on two estimates)	1,050 22	
For construction of works on second division	6,735 13	
For tidewater connection, (pay and expenses of engineers, and law expenses)	1,185 55	
For acquisition of lands, (lots purchased on basin and dock, and old and recent assessments)	12,023 95	
For south side connection, (ferries and Cartersville bridge)	1,060 56	
For interest	3,451 16	
For expenses of general meetings	2,333 88	
For expenses of president and directors	1,462 65	
For law expenses	1,011 32	
For bills receivable	2,856 50	
For loans by individual directors, (paid off)	4,000 00	
For canal scrip	1,811 80	
For dock scrip	6,952 23	
For interest on dock scrip	1,183 88	
		260,180 10
Leaving on hand a balance of		196,898 71

Canal scrip outstanding	5,598 45	
Dock scrip outstanding	1,399 00	
Total		6,997 45

The financial condition of the company, as shown by its books on the 1st of the present month, may be stated as follows:

Resources.

Balance on hand as above	196,898 71
Balance of stock arrearages, probably available	9,728 49
Estimated interest thereon	5,543 99
Rents in arrear	2,208 05
Outstanding tolls on the western improvements	23,238 83
Unsold real estate, valued at	24,964 08
General Hamilton's debt	63,820 45
Interest thereon	15,416 95
Unsold State scrip from loan for resumption of works	78,150 00
Total	419,969 55

Liabilities.

Balance of debt due for purchase of dock	$1,215 87	
Interest thereon	317 94	
Bills payable	5,764 80	
Unpaid interest on guaranteed bonds	4,731 00	
Unredeemed canal scrip	5,598 45	
Unpaid assessments	750 00	
Interest on scrip and unpaid assessments	2,120 29	
Unredeemed dock scrip	1,399 00	
Interest thereon	335 76	
Sundry miscellaneous debts ascertained	12,925 40	
Amount necessary to cover unliquidated debt	3,750 00	
Total		38,908 51
Balance of resources		381,061 04

This statement, like a similar one presented in the last annual report, is made without reference either to the validity and availability of the resources, or to the urgency of the liabilities. An inquiry into these, inasmuch as some of the items remain the same, would for the reasons then adverted to, show a different and less favorable result; but as that result would still leave the company in an easy and sound condition for the 1st of January interest payments, and not likely to be embarrassed for the residue of the current year, it is judged needless to enter upon the examination.

Before passing from this head of the report, I beg leave to communicate the secretary's usual statement of the receipts and disbursements of the company from its organization to the close of the present fiscal year. [App. B.] Also the tabular statement of the annual tonnage, tolls, and ordinary expenses and repairs of the canal, which was presented with the last annual report, and is now continued up to the first of the present month. [App. C.] Also the table showing the different articles and their quantities annually transported on the canal, continued up to the same date. [App. D.]

3. RESUMPTION OF WORKS.

Of the course taken by the board of directors immediately after your adjourned annual meeting on the 17th of March last, having in view the speedy resumption of the company's long suspended works, and of the events which suddenly arrested their action, and led to a rescission of their proceedings, and the necessity of calling another meeting of the stockholders on the 4th of May following—

by which means the operations of the company were delayed fully eight weeks—you were informed in the communication of my predecessor to that called meeting. I shall, therefore, commence my report on this subject from the period of the appointment of the late president as chief engineer of the company, and of myself as his successor in the duties of my present office, but will first take occasion briefly to recapitulate the plan for resuming the works which the board were engaged in carrying out at the time of the interruption of their proceedings to which I have just adverted.

The plan contemplated in the first place, the immediate preparation for contract of the 27 miles of unfinished work between Lynchburg and the mouth of North river, with a view to secure the completion of that portion of the line within the shortest period practicable, and with the hope, moreover, of being able to open the navigation of the eight miles formerly occupied by the old Blue Ridge canal in the early part of next year. Accordingly, two parties of engineers headed by a principal assistant engineer, and all operating under the direction of the president, in his then additional capacity of chief engineer, were to be immediately placed upon the surveys with the expectation that the whole 27 miles would be prepared for and put under contract by the first week in July at farthest. In view of the paramount importance of this object, and the great amount of labor which it involved, the board determined that until it should be accomplished the efforts of the president and engineer corps should not be interrupted by an attention to any other part of the line. That object once accomplished, however, it was their purpose in the next place to employ upon the line between North river and Buchanan, a force of engineers sufficient to re-locate the canal, and prepare it for contract before the end of the present year.

These were the views of the board on the 18th and 19th of March, when, as you were informed by the late president, they had this subject under consideration. The bill providing for the tidewat r connection, then pending in the legislature, did not become a law until the 20th of that month, although it had been agreed to by the house of delegates, and its final success was anticipated with great confidence. It was considered, however, that even this important work ought not to interfere with the plan of letting the unfinished work above Lynchburg within the period already fixed, but that as soon as practicable thereafter a party of engineers should be employed to resume and complete the surveys of the various routes through the city of Richmond which had been or might be proposed; that those surveys should share the attention of the chief engineer equally with those intended to be commenced above North river; and that all practicable means should be used to enable the board finally to select a route, and adopt a definite plan for the connection, in time for their action on the subject to be reported to the body of stockholders at this meeting, and with a view to offer the work for contract before the close of the present year.

I will only add that at that time there was nothing apparent in the commercial or financial condition of the country, or in any tidings which had been received from Europe, portending a state of things at all likely to interfere with the execution of the plans thus entertained by the board.

With these preliminary explanations, I pass to the period of the adjournment of the called meeting of the stockholders on the 7th of May last. On the next day, the board, with a view to the organization of a corps of engineers for field operations, appointed Edward H. Gill principal assistant engineer, and Robert W. Tomlin and James M. Harris assistant engineers; but being compelled to adjourn on that day, they confided the arrangement of details to the executive committee (consisting of the president and the two Richmond directors,) on consultation with the chief engineer.

It was believed that with the advantage of having the survey between Lynchburg and North river carried on under a principal assistant engineer, of such tried skill and intimate acquaintance with the ground, the services of the chief engineer could, for a portion of the time, be devoted to the survey of the tidewater connection, so that the two could be progressing at the same time. This arrangement, however, was frustrated by the preference of Mr. Gill to retain his present situation rather than accept the appointment which had been tendered to him. The necessity of dispensing with the services of that meritorious engineer was an occasion of sincere regret with the board of directors, while the privation at such a time gave great embarrassment to the committee. The idea of the lower survey was, in consequence, necessarily abandoned for the time being, except that a party of laborers, under a competent agent, was ordered to be employed in boring at short distances apart, in the channel below the outlet lock of the Richmond dock, under specific instructions from the chief engineer, in order to ascertain at what depth a solid rock foundation for the new and enlarged lock about to be built, can be obtained. The office of principal assistant engineer was also temporarily dispensed with—the chief engineer, with the aid of an assistant, who should occasionally act as draftsman, undertaking to conduct the survey above Lynchburg in person. Accordingly, Charles B. Shaw was added to the number of assistant engineers already appointed. The three assistants, with suitable rodmen and chainmen commenced field operations at various times from the 15th of May to the 15th of June.

The heaviest jobs on the 27 miles of unfinished work above Lynchburg, according to the former plan of works, consisted in the dams with their river locks, of which there are seven required, namely. Judith dam, Bald Eagle dam, Pedlar dam, Coleman Falls dam, Big Island dam, Cushaw dam, and Blue Ridge dam. The dimensions and other particulars of these dams as well as of the locks on that division of the line, will be seen from a tabular statement [App. L.] herewith communicated. The five dams first named were to be new structures of stone; the other two, which are existing structures, were to be retained, but rendered permanent by walls of hydraulic masonry built across the river at short distances below, with counterforts between them and the dams, the interstices to be filled with a concrete of rock and cement. In order to secure the completion of the whole work during the year 1849, it was deemed necessary that the five stone dams with their river locks, should be put under contract in time to allow them to be founded and raised as high as the surface of the river during the present season; and to this end the efforts of the engineers were to be directed.

In the mean time the committee turned their attention to the important subject of providing for a supply of hydraulic cement, an indispensable ingredient in the masonry of the structures about to be commenced. Hydraulic lime stone is known to exist in abundance in the valley beyond the Blue Ridge. The explorations of Judge Kinsey in 1836, disclosed several quarries from which the company formerly obtained partial but inadequate supplies, manufactured by Messrs. Edmundson and Graham, and afterwards by Mr. Nelson Tinsley; but the localities of the quarries were objectionable on account of the cost of transportation to which they subjected the company. Subsequent examination by the present chief engineer, having led to a belief in the existence of quarries much nearer at hand, the committee resolved on another exploration; and on the recommendation of that officer, employed Mr. Alexander B. M'Farlan as a person fully competent, first to search for additional quarries of hydraulic limestone, secondly to superintend the necessary arrangements for the manufacture of an adequate supply of cement, either by contractors or by agents of the company; and thirdly, in case he could be spared for that purpose, to act as one of the principal superintendents of masonry when the dams and locks should be commenced.

The former contract with Mr. Tinsley was for the delivery of 100,000 bushels of cement at 28 cents per bushel, with an allowance for transportation of the limestone, which swelled the price to 33½ cents per bushel; which, though cheaper than the article, at the date of the contract, could have been furnished from any other source, is, in consequence of late improvements in its manufacture, considerably higher than the rate at which it ought now to be afforded. At the period of the suspension of the works, Mr. Tinsley had delivered 67,712 bushels, consequently he is entitled yet to deliver 32,288 bushels at his former price, before the company can, under the terms of the contract, take possession of the cement mill erected by him, and profit of the cheaper rate at which the article can now be manufactured. The company will of course suffer some loss on this account; but no other alternative occurred to the committee than to require the con-

tractor to recommence and complete the delivery of his contract quantity of cement with all practicable despatch.

The exploration of Mr. M'Farlan, whose report I beg leave to communicate, [App M.] resulted in the discovery of several quarries of hydraulic limestone previously unknown. One of these, on account of its locality, is of prime importance to the company, inasmuch as by requiring Mr. Tinsley to take his material from it, a saving of 5½ cents per bushel is effected in the cost of the cement yet to be delivered by him, which will reduce the loss to the company under this contract to $3,228.

Having adverted to the employment of Mr. M'Farlan, as superintendent of masonry, I may as well add that it is the purpose of the board (they having learned its importance from costly experience,) to employ in this capacity as many practical stone masons of improved skill and fidelity as will suffice effectually to assure the company that every cubic yard of masonry on the new works shall be constructed exactly in accordance with the spirit of the contracts, and of course be permanent and reliable.

During the progress of these various arrangements, a state of things supervened, calculated greatly to influence the action of the board. For a considerable period, every arrival from Europe brought tidings of the approach of an appalling famine in various parts of that continent. Each announcement of this kind was attended by a corresponding advance in the price of bread stuffs in this country, until at last they rose to about 100 per cent. above their price at the time when the estimates were made, upon which the legislative appropriations of last winter were based. It was the opinion of many intelligent gentlemen, accustomed to watch the signs of the times, that this state of the provision market might continue for a length of time, and have a proportionable effect upon the price of labor. No little concern, therefore, was felt by the board lest the cost of the work should, from causes beyond their control, be made to overrun the estimates; thus subjecting them to the undeserved censure so unsparingly cast upon the former administration of the company for a like calamitous result, incurred under precisely similar circumstances. This consideration prevented the board from placing engineer parties on the line above North river, and on the survey for the tidewater connection: and altho' the preparation of suspended works between Lynchburg and North river, for contract, was permitted to proceed, it was for a long time questionable whether any portion of it, except the new dams, could be safely let during the present season or not.

After getting into the field, the chief engineer found that the plans and specifications of the five new dams could be prepared by the 1st of July, and those works were therefore advertised for contract on the 16th of that month. The board met on that day, accordingly, and after duly considering and comparing the numerous proposals presented for the several dams, awarded the whole of them to John Eaton, of Ohio, whose bids were the lowest, and were accompanied by very satisfactory testimonials of his skill, competency, and ability to execute the work. It is proper to remark, that by that time an unexpected reaction had taken place in the price of bread-stuffs, and that, probably in consequence, the proposals of the contractors ranged considerably lower than had formerly been expected.

At the same meeting the chief engineer was authorized to let all the work on that portion of the line formerly occupied by the old Blue Ridge canal, except the Cushaw and Blue Ridge dams, either to the former contractors or at prices not to exceed those of the old contracts; which duty was shortly afterwards performed by him. The residue of the line was ordered to be advertised for contract on the 29th of September at a meeting of the board to be held in Lynchburg for the purpose of letting it

It was also ordered that a survey of the several routes which had been or might be proposed through the city of Richmond for the tidewater connection should be made, and separate estimates of its costs by those routes respectively prepared, and laid before the Lynchburg meeting above mentioned. This survey was executed by the chief engineer, with the aid of Mr. Tomlin and Mr. Shaw, who were withdrawn for that purpose from their duties above Lynchburg. It was commenced on the 5th of August, and being completed by the 25th of that month, Mr. Tomlin returned to the line above Lynchburg. Mr. Shaw remained in Richmond to complete the maps, plans, and estimates of the work by the three routes surveyed, and returned to the line above Lynchburg on the 25th of September.

In the mean time, in consequence of the favorable wheat harvest which had been gathered, the prospect of an unusually abundant corn crop throughout the country, and the downward tendency of the provision market generally, the executive committee were forced to the conclusion, that after all, the low price standard of the labor and provisions would prevail towards the close of the year, and therefore, that the manifest and characteristic impatience of the public to hasten the work to completion at all hazards, need no longer be withstood. Under this impression, they requested the chief engineer to take the necessary steps in advance for placing an efficient force of engineers on the 20 miles between North river and Buchanan, immediately after the Lynchburg meeting of the board, with a view to prepare it for contract during the present year, in case an order should then be given to that effect.

At the Lynchburg meeting, which commenced on the 29th of September, all the work not previously contracted for between Lynchburg and North river, was let to contractors at reasonable prices, with the reservation of certain sections nearly completed under the former contracts, but left in such a condition that they could only be executed to advantage by a force of year hands operating under overseers, and also of sundry small jobs which could be more conveniently let by private contract. I have the satisfaction to believe that if the work shall all be completed at the contract rates, the cost will fall somewhat below the preliminary estimate; but the newspaper statement of the amount of the saving, which I have been informed of, was absurdly exaggerated.

At that meeting, also, the board concurring in the views of the executive committee, directed the survey above North river to be undertaken immediately. The exertions of the chief engineer, at the instance of the committee, to obtain a party of additional engineers for that purpose, having proved unsuccessful, Mr. Tomlin and Mr. Harris were withdrawn from below North river and placed upon the survey above, in the early part of October. They were shortly afterwards joined by Edward Lorraine, the inspector at Richmond, formerly an assistant engineer in the company's service, whose place at the gauge dock has been temporarily supplied. Various other additions to the force have subsequently been made; so that, operating as they have been, until a few days past, under the personal direction of the chief engineer, their progress has been such as to give ample assurance of the timely accomplishment of the object in view.

At the same meeting the chief engineer presented his report (herewith communicated, [App. N,] of the survey of three several routes through the city of Richmond for the tidewater connection, together with maps of the several routes, plans of the works of art, and estimates of the cost of constructing the connection by each route. Referring to that report for a description of the several routes, and a lucid exposition of their comparative merits, especially upon the paramount question of their adequacy to feed the dock, I remark, that one of the routes was recommended as decidedly superior in this respect, provided its adoption could be coupled with a condition which could not be dispensed with, but the practicability of which was not yet known, and, moreover, that while the cost of *executing* the work, independent of land damages, was stated as nearly equal on all three routes, the whole cost might be materially varied by that item, but to what extent was not yet known. The board therefore postponed the further consideration of the subject until an adjourned meeting to be held in Richmond on the 15th of October, for which meeting it was made the special order. In the mean time the executive committee and the chief engineer were directed to make such negotiations, and to obtain such counsel and information upon the yet doubtful points, as should be necessary fully to possess the board of the means of finally disposing of this long pending question. This duty, with the valuable aid of Mr. Baxter as counsel, was so far executed as to enable the board, at the meeting in Richmond, after maturely weighing the manifold and grave considerations which presented themselves in favor of each route, to agree with ultimate unanimity upon the route by the armory, through Haxall's canal, which had been recommended as preferable by the chief engi-

neer. The connection by this route, as will be seen by the report just communicated, "leaves the canal just below the Tredegar rolling mill, and by a single and two combined locks of 17 feet lift each, with a basin between them, enters the channel on the north of Brown's island. Along the channel, and through Haxall's canal," which will be raised one or two feet, and extended eastwardly for the purpose, it is carried to Virginia street, where "it descends by a lock of 15 feet lift to the level of the dock." Having done this, "the remainder of the work to tidewater consists in raising the dock walls 2½ feet, extending the dock eastwardly 350 feet, and constructing an outlet lock at the lower extremity of the extended work. This route also embraces a dam across the river from the head of Brown's island to the south abutment of the railroad bridge." It also embraces the alternative plan, yet to be selected, of passing the race waters from the Gallego mills, by a culvert under the canal, for the benefit of the owners of the Columbian mills, or of receiving them into the pond described in the engineer's report as formed by damming up those waters to the level of Haxall's canal; in which latter case an equivalent quantity of water will be delivered to the mill owners just mentioned, from the south side of the canal. I will only add that the adoption of this route was the result of an arrangement giving to the company "the full and entire control of Haxall's canal, as free and unrestricted as by law they can exercise over any other part of the canal," and making "subservient to the navigation all the water of the river not now used for milling and manufacturing purposes."

The tidewater connection, as thus described, and the extension of the canal from North river to Buchanan, have both been advertised for contract at Richmond on the 19th of December next; and if let on that occasion, it is hoped that both may be completed in all of 1850.

I beg leave here to communicate the chief engineer's report of the operations of the engineer department for the past season, [App. O,] and to claim for the views and suggestions which it contains your attentive consideration.

If my own report upon the resumption of the works has appeared to be tedious, I can only say that I have had no time to make it shorter; and that between the extremes of brevity on the one hand, and minuteness of detail on the other, I have seen enough to convince me that in reports of this kind it is safer to err on the latter side.

Before passing to my concluding topic, I beg leave to advert to two occurrences which do not seem properly to belong to either of the heads under which I have chosen to arrange the matter of this communication.

The first is, that as your proceedings at the called meeting of stockholders in May last, left the company without a secretary, the board appointed Mr. Christian O. Gerberding, who for many years had been the principal clerk in the company's office, to fill that vacancy; and that having presented his official bond in the prescribed penalty, with sureties satisfactory to the board, he is now the secretary and fiscal officer of the company.

The second is, that on the 28 of March last the legislature adopted "resolutions changing the time for making, and providing for printing the annual reports of public officers and others, to be laid before the general assembly," which were furnished to me on the 13th day of this month, by the secretary of this commonwealth. Those resolutions, with the accompanying letter of that officer, [App. P,] I beg now to communicate, without comment further than that not having completed my report at the time of their receipt, I furnished the executive, thro' the second auditor, with such leading facts relative to the operations of the company for the past year, as I judged he might consider of sufficient interest to be adverted to in his forthcoming message to the general assembly; and that in order to enable your presiding officer hereafter to comply with the requirements of the first resolution, it will be necessary for the stockholders to direct the fiscal year of the company, to be closed on the 30th of September instead of the 31st of October.

To be continued.

PENNSYLVANIA RAILROAD COMPANY. Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law.

GEORGE V. BACON,
May 13—8t Treasurer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,
PARK WORKS, SHEFFIELD,

Double-Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatly, South Charles St., Baltimore.
May 6, 1848.

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

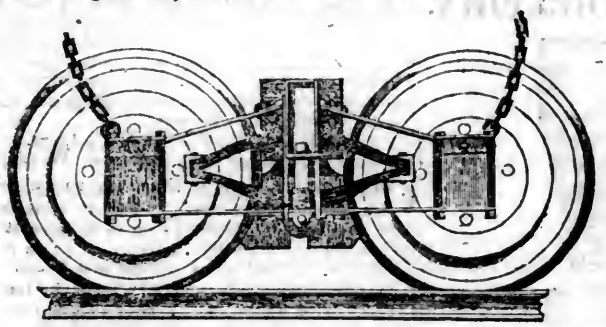
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Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.
May 6, 1848.

BREESE & ELLIOTT, IMPORTERS OF—and dealers in—Iron and Steel, 245 Water st., New York. Railroad Tires furnished to order.
April 29, 1848. 1m18

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Palent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja16 *Reading, Pa.*

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ed barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

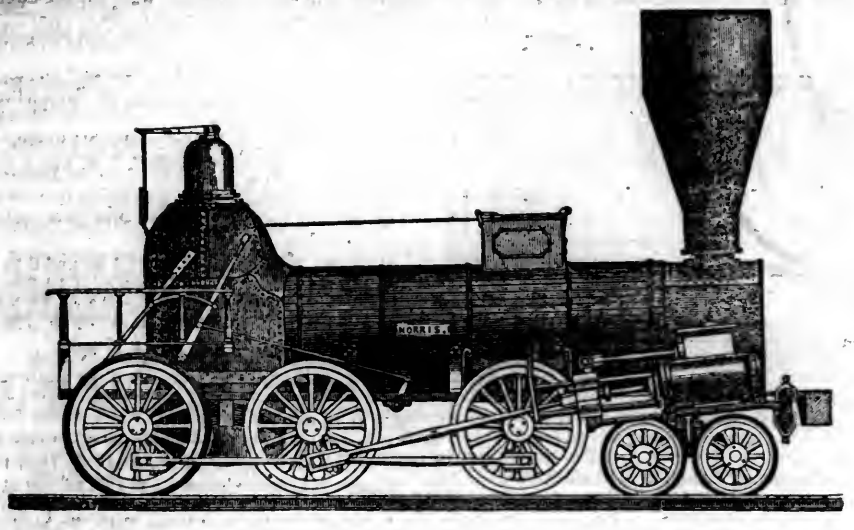
General Agent,

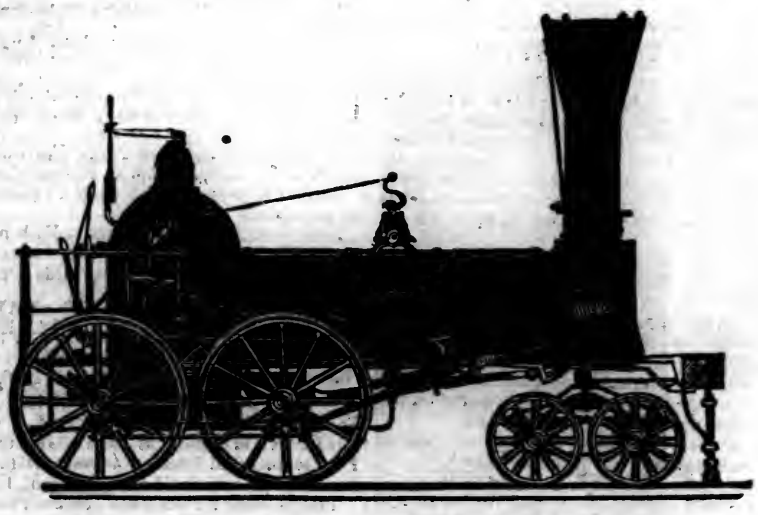
Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
t2tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

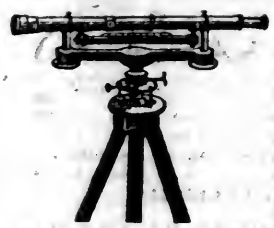
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent*.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY,
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

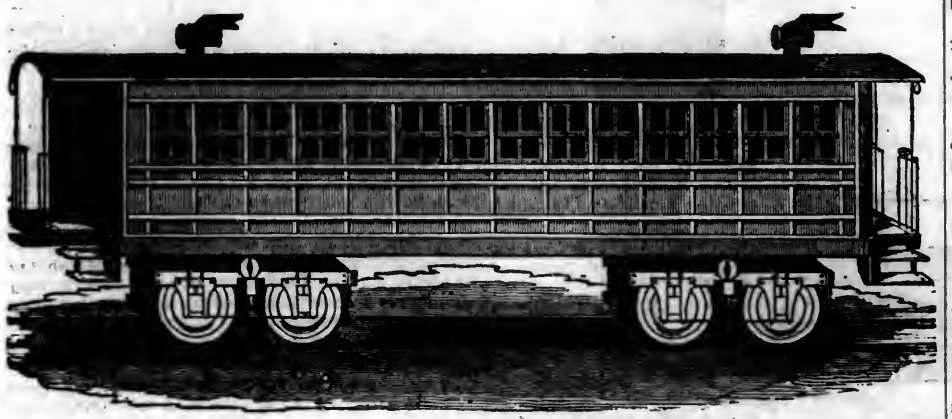
HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja15

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS. the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m., 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1; to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5½ p.m.

For Reading 7, 8½ & 11½ a.m., 2½, 4½, 5½, 6½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4½ p.m.

From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m.

From Reading at 6, 7½, 9½, 11½ a.m., 1½, 4, 7½, 9½ p.m.

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.

Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, April 15, 1848.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stoughton—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and ½p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

W. RAYMOND LEE, *Sup't.*

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL. Sup't

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m. Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

f25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*

Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon		$1 00
"	"	" Xenia 1 50
"	"	" Springfield 2 00
"	"	" Columbus 4 00
"	"	" Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile..

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC Railroad.

—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons..... $5 00 per hhd.
On molasses and oil..... $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y10 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore, Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Rail road, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.	6 P.M.

Going east.		1st train	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

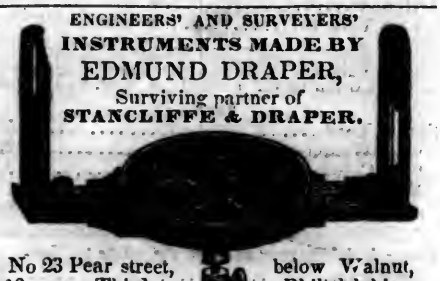
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One column " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No 22.] SATURDAY, MAY 27, 1848. [WHOLE No. 623, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, May 27, 1848.

Wilmington and Raleigh Railroad Co.

The Charleston Mercury says "this company has increased the fare between Charleston and Weldon. This step has been forced upon them by the policy of the other railroads between Weldon and Baltimore. The Wilmington and Raleigh company have been desirous that the fare between Baltimore and Weldon should be placed at so low a rate as to attract increased travel upon that route, and accordingly fixed the fare from Charleston, 330 miles, at $10, or a little over three cents per mile, while the companies further north charged $10 between Weldon and Baltimore, 249 miles, or at the rate of four cents a mile."

This company charged less last year *per mile* than any other road at the south—about two and a half cents on through passengers. This was too low for that region, where there are but comparatively few way passengers—though quite high enough at the north. If they will allow us to make a *through ticket* from Charleston to New York, we would put it at about $24—the distance being 775 miles—or about 3·1 cents per mile, to be divided between the roads in the following proportions, viz:

New York to Philadelphia, 90 miles, 2¾ cts.	$2 25
Philadelphia to Baltimore, 97 miles, 2¢ cts.	2 50
Baltimore to Washington, 40 miles, 3 cts.	1 20
Washington to Richmond, 133 miles, 3¼ cts.	4 65
Richmond to Petersburgh, 22¼ miles, 4 cts.	90
Petersburgh to Roanoke, 63 miles, 4 cts.	2 52
Weldon to Charleston, 330 miles, 3 cts.	10 00
New York to Charleston, 770 miles.	24 02

Or $22 to Philadelphia, and $19 50 to Baltimore. This would ensure a large proportion of the travel to take this route.

Pennsylvania Coal Trade for 1848.

The weekly reports of the coal trade received by us do not come to hand until our paper has been put to press—we therefore avail ourselves of the statement given in the Philadelphia Shipping List.

The following is from that valuable publication for 20th inst.—and up to Thursday, 18th.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 15th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	4,664 09	29,734 14
By Room Run	2,856 04	19,576 02
By Hazleton	3,168 00	12,318 00
By Beaver Meadow	2,583 03	12,184 04
By Spring Mountain	2,323 09	9,210 09
By Buck Mountain	1,433 11	9,689 06
Total	17,028 16	92,712 15

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 18th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	15,379 17
" Pottsville	5,177 18
" Port Carbon	10,041 00
" Port Clinton	3,565 00
Total this week	34,163 15
Total this year	389,771 05

The amount of coal brought to market by the Schuylkill canal during the week ending the 18th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	9,880 19
" Schuylkill Haven	3,078 07
" Port Clinton	000 00
Total this week	12,959 01
Total this year	71,158 14

Recapitulation.—Total Shipments this Season.

By Lehigh companies	92,712 15
By Reading railroad	389,771 05
By Schuylkill canal	71,158 14
Total	553,642 14

Manchester and Lawrence Railroad.

Proposals are invited, by the engineer, for the grading and masonry of thirteen miles more of the Manchester and Lawrence railroad, between Derry, and the State line near Methuen. The contract for the second five miles section has been taken by Col. N. Chase, of Manchester.

An Error Corrected.

We have been desired by a friend to correct an error which occurred in the *Journal* of 22d ult., in regard to the amount of coal transported over the Reading railroad during the month of March last. Instead of "188,898 tons," it should have read 85,170·10 tons, which would make a difference of 103,727·10; and the increase over the corresponding month of last year would be only 7,376·02 instead of "111,104 tons," as we had it. We believe we are somewhat indebted to the New York Pathfinder for the error, but as we did not credit them with it at the time, it would be hardly just to blame them for it now. Perhaps they will be good enough to make the correction, as we have done—as it may lead to erroneous impressions.

Camden and Amboy Railroad.

Its Privileges and its Abuses.

It may be recollected that we published in the Journal of 5th February, No. 6, a communication from "A Citizen of Burlington," addressed to the *Legislature of New Jersey*, in relation to the course pursued by the Camden and Amboy railroad company, under the *exclusive*, and, as the writer contends, *unconstitutional*, and *oppressive* to the people, legislation of their predecessors.

The writer contends, and with great justice we think, that it is not only unconstitutional to tax the people of other States for passing over the soil of New Jersey, but also oppressive, and injurious, in a pecuniary point of view, to the people—the *farmers*, the *owners* of the *soil*, and the *manufacturers*, of New Jersey, to grant exclusive privileges to any one company, or set of men, with power to charge extravagant rates—thus preventing competition, and checking all rivalry—which is the *very life* and *soul* of business; and above all, that it is doubly unjust to the people, and the business men of the two great cities at each end of their roads, that their business should be interfered with, to the amount of millions every year, by extravagant charges of freight and passage, that the people of New Jersey may receive the paltry sum of $81,301 70!!

The writer takes up the subject in earnest, and handles the managers of the joint companies, which bestride the State of New Jersey, and paralyze the energies of its people, without gloves. He does not hesitate to call things by their right names—nor to use, in some cases, *hard* names—yet he aims to give reasons for his charges, and facts and figures in proof

of his assertions. We do not, however, intend to repeat his hard-names, as that does not come legitimately within our province, yet we propose to make a series of extracts from his letters, which make a pamphlet of 64 closely printed pages, and which ought to be distributed by tens of thousands, among the *farmers*, and *business* men, of New Jersey.

Notwithstanding we published his first letter entire —page 89 of this volume—we now make the following extracts from it, in order to save our readers the trouble of referring back to see the grounds taken in that, and *some* of the allegations made against the monopoly. The date of this letter was *January 21st*, 1848.

He says, * * "In consideration of the grant of the privilege to tax the unhappy persons who are compelled to cross the State, the company pay ten cents per head, or one-thirtieth of the sum that it receives for transporting passengers to New Brunswick, where it hands them over to the tender mercies of the New Jersey company, which takes its share of the monopoly privilege by charging a dollar for performing the same service which it performs for others for 75, and sometimes even for 50 cents. In addition to this tax on passengers it pays also 15 cts. per ton for merchandise transported.

"The transit duties yield $57,000. To these are to be added the dividends on stock given to the State, $24,000. Total $81,000. The amount acknowledged to be received by the canal and railroad companies is $1,400,000. Adding to this the large sums received by the Trenton railroad company and other sub-companies, we have an amount exceeding two millions of dollars. The charges being *more than double* what they would be under a system of free competition, it follows that the tax *directly* imposed upon the people who use the road exceeds a million. And this tax is imposed by New Jersey in order that she may obtain $1,000 as her share of the spoil!!

"Were this the only evil, it might, perhaps, be borne, but it is not. The interferences with trade and travel are enormous. For one person that now passes between the cities there would go five were the price two dollars, and ten, were it, as it should be, a dollar and a half. For one package of merchandise that now passes, dozens would go were transportation at a fair price. The loss to the community by these interferences is treble the amount of the *direct* tax, and that being taken at a million, the whole may fairly be set down at above $3,000,000 a year, and all this that New Jersey may take her dime out of the traveller's pocket!"

* * * "Burlington enjoys greater advantages than are permitted to most other places in the State, yet I am well satisfied that the abolition of this monopoly would be worth to this town and neighborhood alone, more than the whole revenue that is derived by the State from pillaging the unhappy travellers and unfortunate merchants that find themselves compelled to use her roads. If the railroad monopoly had no existence, it would soon have treble the facilities that it now enjoys, and thrice the number of persons would visit it, while diminished freights would increase the facility of transporting produce to market, and manure from market, and stimulate agriculture to an extent that would bring into activity vast bodies of land that are now entirely unproductive, while doubling the value of all.—The whole vicinity would become one great garden, and hundreds would reside here permanently, or temporarily, who cannot come under the existing system. Men and women accustomed to travel as people travel elsewhere, find it unpleasant to travel in old and dirty, and sometimes filthy, cars. Still more unpleasant do they find it to be compelled to wait in hundreds while their fellow-passengers, droves of hogs, are run down and caught, preparatory to being loaded. Yet more unpleasant than this is the necessity for contending with droves of sheep and hogs, on board of old and filthy ferry boats, for standing room: and these things they must do if they would live in Burlington. Trenton, too, would double in population and wealth in half the time that will be required if this monopoly is continued, and such would be the case with every town in the State."

* * * "The whole system is one of grasping rapacity as to the taxes imposed, and of meanness as to the accommodation afforded. The boat that now transports passengers from Philadelphia to Taconey is more than 20 years old, and could not live a week in any part of the Union, out of the protection of this State. To pass from Philadelphia to Bordentown, a distance of less than 30 miles, is almost as long a journey as that from New York to Newburgh, a distance of 60 miles, and the *tax on time* that is thus imposed is more than the whole revenue of the State; yet all this injury is inflicted under the mistaken idea that the State can pilfer from the pockets of its neighbors, without paying itself the penalty of such misdeeds. It pays millions that it may save thousands.

* * * "The highest legal authorities of the Union have given their opinion that the monopoly portions of the charter are not binding on the State, and every one who studies the constitution of the United States must be satisfied that they are in conflict with both the letter and spirit of that instrument, and that they cannot and will not stand the test of a trial before the supreme court of the Union, to which tribunal the question will go, unless the State shall be able to free itself without such aid."

It will be seen that, in his first letter, the writer assumes the following positions, viz: 1st, that the people of New Jersey are *loosers*, to a large amount —say *millions*—annually, in consequence of granting a monopoly, by which they receive about $80,000 a year; 2d, that the business community are *not as well served* as they would be at half the cost, if there was *free unrestricted competition*; and, 3d, that it is not only unjust to the people of *other* States, and unprofitable to New Jersey herself, but also *unconstitutional*, and therefore the legislature ought to throw open the business to free competition, by returning to the company the *two thousand shares of stock* issued to it; and giving up the *transit duty* of 15 cents a ton on goods, and 10 cents each on passengers, now paid by the company for its privileges; and to sustain these positions, the *fifteen* following letters, from which we shall extract freely, were written and published. In his second letter he says,

"Some men govern themselves. Others are the subjects of kings exercising limited powers. A third and large class are the slaves of despots whose only law is their imperial will and pleasure. It is in this last class that I find myself placed." * *

"That I may make myself heard by my royal masters, I am compelled to resort to the press, although fully aware that all kings, and especially railroad kings, hold the printing machine in great dislike, thinking that it tends to make their slaves think and talk of their unhappy lot, and possibly to combine their exertions for purposes of rebellion, to end perhaps in revolution. The autocrat of Russia publishes annually a list of the newspapers that he permits his slaves to read. The French government persecutes and imprisons editors who oppose its measures, but it rewards largely those who advocate them. Men are there allowed to think and speak freely, *provided only* that they speak for, and not against, the king. Such is said to be the case in this State. It is said, but with what truth I cannot say, that no paper within its limits, and scarcely one in the neighboring cities, dare print a line calculated to offend the railroad kings. It is asserted that all connected with those papers, proprietors and editors, and their children and grand children, their brothers and sisters-in-law, their sons and daughters-in-law, travel scot-free on this road; and that by this means, and by the further aid of a judicious distribution of advertising, the press is muzzled, with a view to prevent the slaves of royal masters from crying out so loudly as to be heard by their fellow slaves. I feel assured that this is a libel on the press of the State, as well as on those of New York and Philadelphia, and I only mention it to show the scandals to which this monopoly give rise. I have already found that there is one independent paper in the State, and I doubt not there are very many like it."

We fear the writer's anticipations and hopes, that the *press* of New Jersey, and of the two cities so largely interested in the matter, would come to his aid in his efforts to open the door for free competition will not be realized if what he says in the preceding extract is correct, as it is no uncommon thing for men to say, "why should we quarrel with our own bread and butter!" He says:

"Where privileged orders exist, as in England, France, Russia, and New Jersey, travelling is a costly amusement to *the many*, but very profitable to *the few* who rule them.

"In this country we find every variety, as we pass from the States in which man is free to those in which he is enslaved. The man of Massachusetts travels, and travels like a gentleman, for two and a half cents a mile. There the hogs and he never travel in company. The man of New York travels on the Erie, the Long Island, or the Harlem roads, for two cents per mile, and on two of them for even less. Let him enter the dominions of the railroad kings of New Jersey, and at once he finds a change.

"The poor Irishman, flying from famine and pestilence, lands in New York, with his half-starved family. If he bend his steps northward, going among freemen, he may have a floating palace which will convey him one hundred and forty miles for one dollar, or he may travel comfortably for fifty cents, or even less. If he travel in the direction of the railroad kings, he is put in a transport ship that carries emigrants and other poor men, with bales and boxes of merchandise, to and from Amboy. There arrived, he finds himself placed in a machine greatly resembling the one used in Philadelphia for the conveyance of prisoners, and popularly known as the *Black Maria*. He travels like a convict, and for this delectable mode of conveyance he pays two dollars and a quarter for ninety miles, being two and a half cents per mile, while the man of New York travels like a gentleman for less than two cents. Were travelling free, this poor man would travel far better for a dollar. He comes in search of freedom, and at his first step he finds himself the pray of a rapacious and grasping monopoly that charges him double price for bad accommodation: taking from him more than an extra dollar per head by authority of a State that shares the plunder and pockets *its dime*, that it may provide funds for the payment of Judges and Chancellors charged with the administration of laws whose object is, or should be, that of enforcing a regard for the greatest of all laws—'do unto others as ye would that others should do unto you.'"

In concluding his second letter, he says very truly and forcibly:—

"Were such acts perpetrated in New York, all of you, my fellow-citizens, would unite in denouncing them as immoral, if not even as infamous, and you might then, perhaps, see in the conduct of your neighbors what you cannot see in your own, that it is *even more impolitic than it is immoral*. When you shall come to open your eyes to the fact that this monopoly has retarded the improvement of the State to an extent that has already cost you more millions than would have made five times the number of miles of road that are contained in those of this great company: more than would have brought almost every part of the State within reasonable distance of railroad communication: you will arrive at the conclusion, that a regard for the precepts of Christianity is not more *the duty* than it is *the policy* of men, and of communities."

At the commencement of his third letter he says that "MONOPOLIES, throughout the world, and at all periods, have been marked by certain distinguishing characteristics. Their *object* has been always the same, that of imposing heavy taxes by selling bad commodities at high prices, and thus picking the pockets of those who were compelled to trade with them." * * * * * *

"The object in view when asking the prohibition of competition was the same, viz: that of selling bad goods at high prices. What is the character of the goods I will now show, and when that shall have been done, you will all, I think, be disposed to agree with me that they are quite bad enough to qualify this company to take its place, in this respect at least, by the side of all other monopolies.

"First among them, we find a piece of very bad railroad from Camden to Amboy, sixty-two miles long, and but half made. It has one track only, but to make amends for this, there are various turn-outs, also half made. The consequence of this is, that

when one train meets another there ensues a series of movements not unlike those of a *quadrille*. First we have that of 'one lady forward and back.' Next comes that of 'one gentleman forward and back.' After that comes 'lady and gentleman back to back,' and at last, after much delay, we reach the final movement of 'cross over and *chassez*.' All this would be as amusing as it is ridiculous, occurring as it does on the most important part of the main line of communication throughout the Union, were it not that it is so often witnessed unwillingly, by hundreds of people whose time might be elsewhere so much more profitably employed." * *

"Another piece of road, twenty-six miles in length, belongs to this great company. This, like the others, is but half made. Its turn-outs, are, however, better, and less backing and filling is needed when trains desire to pass each other. Nevertheless, the detention of passengers six hours in travelling the short distance of eighty-eight miles, is a matter of perpetual occurrence, and a variation of an hour from one day to the next causes no surprise. This waste of time on the great route of the Union by hundreds of thousands of passengers, for their accommodation, is held to be a matter of small account."

We omit the description of the cars and steamboats, as those who travel know what they are—and that material improvements have been made within a year or two, in those now in general use for the through lines. After referring to the enormous gains of the owners of these lines, and the splendid edifices built by them, he says:

"Having studied these things, let him then study to what extent he himself is taxed for the maintenance of these palaces, occupied by his masters, the dictators of New Jersey. He will then find that while the taxes collected under the name of transit duty, in violation of the constitution of the Union, and therefore as much highway robbery as that of the man who puts the pistol to the head of the traveller, amount to but about a cent per acre of the State, the tax paid by himself counts by dollars per acre. He will find that the annual loss from high freights and bad roads, and from the want of roads that would long since have been made had Jersey had no railroad kings, amounts to at least as many dollars as there are acres in the State, and of them there are more than *four millions*. With further examination, he may perhaps find, and I think he will find, that *the loss is equal to twice as many dollars as there are acres;* and that he may find it, I propose to offer him, in a future letter, some facts that may aid him in the examination."

At the commencement of his fourth letter, dated February 11th, he says:

"Since my last, I have had new evidence that the great monopoly company regard their customer's time as their own money, having made one of a party of about a hundred and fifty persons arrested at Camden, and there detained twenty-three minutes, waiting the arrival of a ferry boat. It is true that they consisted of that inferior class of persons that paid only two dollars and a half for travelling sixty-two miles on a piece of half made road, being only double the charge on the Erie and Long Island roads, and they were not entitled to as much attention as they would have been if they had paid two dollars and seventy-five cents, for travelling the thirty-six miles from New Brunswick to Bristol, which is about four times the charge on either of the above mentioned roads. The company is a *very rich* company. It collects, for its stockholders, fourteen hundred thousand dollars, of which it expends almost eight hundred thousand in the various ways that suit its purposes, *and of the disposal of which it renders scarcely any account to those stockholders*—and with the balance it divides twelve per cent.—but it is yet *too poor* to have two decent ferry-boats. It is the most extraordinary compound of rapacity of demand and meanness of accommodation that exists in the world."

The remark that "scarcely any account of the enormous expenditures is given," over $740,000 on the two lines of railroad and steamboats—or about $5,000 per mile! counting from Philadelphia, via Amboy, to New York, 88 miles, and from Philadelphia, via Trenton to New Brunswick, 60 miles, or 148 miles—is probably based upon the fact that they only make reports once in about *eight years*—the last of which may be found in our last number, and the previous one in the Journal for 1840.

Railroad companies in this country, which have no *exclusive* privileges, are generally required to make annual and full reports, but here with the most extraordinary privileges, they are left to make reports when and as they please.

"By the act of March, 1832, it was provided that it should not be lawful, at any time during the continuance of their charter, to construct any other railroad or railroads in the State, without the consent of the companies, which should be intended or used for the transportation of passengers or merchandise between the cities of New York and Philadelphia, or to compete in business with the road then authorized: and in consideration of the grant of this monopoly, the companies transferred to the State 1,000 shares of stock, and guarantied that the dividends and transit duties should amount to not less than $30,000 annually."

Since the passage of that act, other privileges have been granted, and an additional bonus been secured to the State, amounting in 1947 to $81,301 70.

The writer very justly says, "Had the same legislative body granted to any particular blacksmith the right of shoeing all the horses in the State, or to any one miller the right of grinding all the grain, or had they incorporated a cotton mill, or a bank, binding the State not to incorporate any other mills or banks during the period of the charter they had granted, such acts would have been unhesitatingly set aside: and yet they had precisely the same right to institute monopolies in all those cases that they had in the other. The present legislature has all the power that it would have had if the act of March, 1832, had not been passed, as witness the following opinion of the present Chief Justice of the United States.

"'I cannot think that a legislative body, holding a limited authority under a written constitution, can, by contract or otherwise, limit the legislative power of their successors. The power which the constitution gives to the legislative body, must always exist in that body until it is altered by the people, and cannot be restricted by a mere legislative act. If they can deprive their successors of the power of chartering companies of a particular description or in particular places, it is obvious that upon the same principle they might deprive them of the power of chartering any corporations, for any purpose whatsoever; and if they might, by contract or otherwise, deprive their successors of that legislative power, they could surrender any other legislative power whatever in the same manner, and bind the State forever to submit to it. The existence of such a power in a representative body has no foundation in reason or in public convenience; and is inconsistent with the principles upon which all our political institutions are founded. * * * In my opinion, therefore, the agreement contained in the act of 2d March, 1832, is not binding on the State of New Jersey, so far as it proposes to restrain future legislative bodies of that State from authorising the construction of a railroad within the limits mentioned in the act of assembly. And the legislature may now lawfully grant the power to make such a road to any company already incorporated, or hereafter to be incorporated. * * * Every one is so far presumed to know the law, that in ordinary cases, civil and criminal, he is bound as if he did know it The corporation, therefore, ought not to have relied on a pledge which they were bound to know the legislature had not the constitutional power to give. —If they have done so they must abide the consequences.'

"The question submitted was merely that of the right of the Straight Turnpike company to place rails on their road.

"Chancellor Kent waved the discussion whether the legislature had or had not the right to restrict the action of their successors, as being unnecessary in reference to the case before him, but he spoke of the grant as 'an unmeasured monopoly,' and as one which showed by the very reservation of power contained in the law, 'the immensity of the extent of the release of legislative power' that was contained in that clause of it. He regarded it as a stipulation that should be 'sternly construed, as one that might be exceedingly inconvenient to the public welfare.' He added that 'as it stands, it would, according to the literal terms of it, without the consent of the companies, prevent the construction of a railroad from Camden to Long Branch, or from Newark to Morristown, and from thence to Trenton; for each of these roads might and would be greatly used by citizens of New York and Philadelphia, who wished, *en passant*, to view a fashionable watering place in the one instance, or a beautiful country in the other, instead of driving post-haste through a desert. These routes would,' he thought, 'certainly, in a greater or less degree, compete in business with the said railroad.'

"In this view, Mr. Webster fully agreed.

The State is under no obligation, legal or equitable, to continue the monopoly for even a single hour. Those who enacted the law, granted what did not belong to them, and those who received the grant, accepted it at their own risk. If the title is bad, the loss is their's, and their's alone. The State may incorporate as many companies as it pleases, and may authorize those companies to make roads on both sides of the existing ones, if it will, and the proprietors of the latter have not even the shadow of a claim for compensation for damage. It rests with you, my fellow citizens, then, to say whether the monopoly shall be continued or not."

We give the opinion of Mr. Chief Justice Taney and Chancellor Kent, that our readers may know the *actual rights* of this gigantic company, which is so exacting upon the business community, and leave the subject until our next, with the simple remark that the people of New Jersey pay *higher* taxes—if we estimate their losses fairly—for the support of their State government, than *any State in the Union*.

Wabash and Erie Canal.

We referred, in No. 18, for 29th April, to the advertised letting of 40 miles of this canal, at *Terre Haute*, on the 24th inst., in sections of half a mile each—and mentioned the fact that the commissioners, who advertised the letting, had large quantities of choice land for sale, which was worthy of the attention of emigrants and others. In our statement we made quite a mistake—but whether it was original with us, or with that excellent paper, the "*Cincinnati Gazette*," from which we copied—and from which we presume better things—we are not certain, and therefore take upon ourselves to correct the error; and—late though it be to do good in the matter by the correction—would say that instead of *eighty thousand acres*, we should have said that the commissioners have *eight hundred thousand* acres of the *choicest* lands in the State for sale, and we hope it will find purchasers at prices which will enable them to complete the canal, in the most substantial manner, and at an early day. This section now offered extends from Terre Haute, in a southeasterly direction to Point Commerce, on the west fork of White river, but we are not familiar with the proposed route beyond that point, and shall be much obliged to the engineer, or others, for *Reports* of the *past*, and the intentions for the future.

Central, Georgia Railroad.

From the following paragraph, taken from the Savannah Republican of 11th inst., we learn that the Central, or Savannah and Macon railroad is in excellent condition.

The Republican says, "we are inclined to the belief that this road has never been at any time in so good order as at present. It is unquestionably in much better condition than when it was first completed, not only because most of the trestle work (where the process of filling up is not going forward,) has been renewed in the most thorough

and perfect manner, but the timber is more carefully selected, the road bed is in an improved state, and more than all, alternate cross ties of seasoned cypress have been generally introduced. The effect of all these improvements may easily be detected by the passing traveller in the greater steadiness of the cars.

"We learn that the South-Western railroad is going on with a speed that insures the completion of a portion of it at an earlier period than might have been hoped for at first. The increased travel and business which our road must receive from that direction, will, we are persuaded, very soon prove, to the general satisfaction, that the measure of giving aid to that work is not only almost necessary, but judicious and proper under every view. At present all emigration in Georgia to planting lands goes to the south-western part of the State—almost none to Texas and other States this side of it."

A New Locomotive Engine.

"A new locomotive engine," says the Railway Chronicle, "is nearly completed, under the superintendence of Mr. M'Connell, of the London and North Western. It is expected to prove the most powerful narrow gauge engine ever yet built. The engine is on the outside cylinder principle, and the dimensions of the principal parts are stated to be as follows:—Distance between the centres of the cylinders 7 ft. 6 in.; ditto between the driving wheel and the training wheel 10 ft. 6 in.; height of the fire box 5 ft. 5 in.; length the same; breadth 5 ft. 9¼ in.—slightly overhanging the rails. Distance between the leading and driving wheels 6 ft. 8 in.; the extreme bearing between the angles being 17 ft. 2 in. The driving wheels are of 6 ft. diameter, the other wheels 3 ft. 10 in. The diameter of the boiler (outside) 4 ft. 3 in.; length of tubes 12 ft. 7 in., of 2 in. inside diameter; number of tubes 190. The height of the top of the boiler to the level of the rails, we are assured, is 7 ft. 9 in. The cylinders are 18 in.

"The old plan of locomotion by stationary power up the Edinburgh and Glasgow incline has been resumed. The train being drawn by the iron rope, and the engine carried up at the same time, the process has the two-fold advantage of preventing delay and personal annoyance to the passengers. The working arrangements have given very general satisfaction."

Nashville and Chattanooga Railroad.

The surveys are now progressing rapidly for this road, as we infer from the following paragraph in the Nashville Union of 8th April.

"*The Railroad Survey begun.*—There was an interesting meeting of the railroad board on Thursday. Mr. Garnett, the chief engineer, was present, and reported himself in readiness, with a full corps of assistants, to commence the necessary examinations and surveys, preparatory to the final location of the route of the road. The board adopted a resolution, under which Mr. Garnett proceeds immediately to work. We understand that he will first examine the country for the first thirty or forty miles, and having satisfied himself as to the number of routes proper to be surveyed, that all such routes will be at once accurately measured and estimated by his assistants, whilst Mr. Garnett will employ himself during these surveys by his assistants, in examining all the passes in the Cumberland mountain."

We feel quite encouraged now that this exceedingly important work will be pushed forward with all possible despatch; and gratified too that the company have secured the services of able and experienced engineers. Col. Garnett, with Mr. Grant and others, who have had experience on the Georgia roads, are *practical, working* men, who have learned to make the best use of the means at their disposal, and therefore we anticipate favorable results from their labors.

Method of Welding Iron and Steel.

Translated for the Journal of the Franklin Institute

In an earthen vessel melt borax, and add to it one-tenth of sal-amoniac. When these ingredients are properly fused and mixed, pour them out upon an iron plate, and let them cool. There is thus obtained a glassy matter, to which is to be added an equal quantity of quick lime.

The iron and steel which are to be soldered, are first heated to redness, then this compound, first reduced to powder, is laid upon them: the composition melts and runs like sealing wax; the pieces are then replaced in the fire, taking care to heat them at a temperature far below that usually employed in welding; they are then withdrawn and hammered, and the surfaces will be found to be thus perfectly united. The author asserts that this process, which may be applied to welding sheet iron tubes, never fails.—*Rec. de la Soc. Polytech., Feb.*, 1847.

Artesian Well at Venice.

Translated for the Journal of the Franklin Institute.

In an artesian well sunk at Venice, for the purpose of supplying the city with fresh water, four beds of turf were traversed, at the respective depths of 97, 157.5, 279 and 412 feet. They show that at four different epochs, the soil, which was gradually sinking, was covered to a slight depth by fresh water. Water was met with at the depths of 16, 131, 174 and 197 feet. This latter water, which rises about ten feet above the level of the lagunes, appears to have its origin in the marshy plains which surrounded them; an origin which appears to be confirmed by the carburetted and sulphuretted hydrogen gasses which escape from the water, and the large quantity of azotized matter which it contains, not sufficient, however, to render it unhealthy, or unfit for use.—*Ibid, Sept.* 1847, *p.* 558.

Wilmington and Raleigh Railroad.

Twelfth Annual Report.

This road, like most of the southern railroads, was laid with a flat bar—and therefore it is an expensive road to work—and in addition to this source of expense, it has also to keep up a line of steamboats from Wilmington to Charleston.

The total cost of road and steamboats is £2,052,-569 96.

The cost of road repairs for the last year was over $500 per mile; whereas for a road with heavy, or 55 lb. rails, and the business done on this road, it ought not to be much more than half that amount. We hope the recommendation of the directors to apply to the legislature for aid to lay a heavy rail was adopted, and not only so, but that it was successful.

It was also recommended by the board that substantial aid be given by this company to the Wilmington and Manchester road, by which a connection will be formed between the roads north and south of Wilmington. We deem this a measure of the *utmost consequence* to the company, and also to the town of Wilmington, as—*unless* it shall be, and probably even if it should be, constructed at an *early* day—there will be a line of road from Camden to Charlotte, and from there either to Salisbury and Danville, and Richmond, Va.—or to Fayetteville and Raleigh—thus dividing the through travel, which, for some years, will not exceed the capacity, nor the *wants*, of one line from Charleston, after the lines of steamers have taken there share. We hope therefore that no efforts have been omitted which could tend to ensure the early commencement and completion of the road from Wilmington to Manchester—the preliminary report upon which we published in No. 48, for November 27th, 1847, with a map showing its position in relation to the other proposed lines.

The State of North Carolina has done very little in aid of the construction of improvements—and we trust that she will now put her shoulder to the wheel, and thus aid in developing her internal resources, and in promoting the prosperity of her people. The expenditure of five millions raised upon her credit, would ensure the expenditure of an equal amount of private capital, in the construction of lines of communication through her territory, by which the real estate of her people would be increased in value to at least *double* that amount, and a fair return would be derived from the investment, when the works were completed, and in successful operation.

PRESIDENT'S REPORT.

The president and directors of the Wilmington and Raleigh railroad company submit to the stockholders their 12th annual report of the business of the company, for the year ending 30th September, 1847.

The receipts during the year have been as follows:

From through passengers...	$140,959 25	
" way " ...	53,481 61	
" railraad freight.....	48,761 52	
" steamboat freight and meals.....	11,068 37	
" sales of old iron, rents and transp. of mail.	77,209 44	
		331,480 20
Expenditures as follows:		
For road repairs, viz:—cost of materials.....	33,738 74	
New iron.....	12,211 55	
Superintendence, and hire of hands, etc.....	28,787 82	
Subsistence and clothing...	7,740 92	
	82,479 03	
For transportation:		
Repairs locomotives.	11,235 77	
Do. coaches and cars	9,160 40	
Pay of engineers, agents, hands, subsistence, and depot expenses.....	37,546 69	
	57,942 86	
Office expenses.....	573 43	
For steamboats:		
Repairs.....	42,093 11	
Fuel.....	30,104 76	
Subsistence and pay of hands.....	46,719 41	
	118,917 28	
		259,912 60
		71,567 70

By reference to the foregoing statement, it will be seen (compared with the expenditures of former years) that the item of steamboat repairs is very large. It was found necessary to have the boats Gov. Dudley, C. Vanderbilt and Wilmington, thoroughly repaired, and their guards cut off, for the purpose of rendering them safer and more manageable in bad weather at sea. The Gladiator has undergone repairs during the last year, and the most, therefore, that remains to be done to her to render her equal to the other boats is to have her guards trimmed in a similar manner, and probably a renewal of her copper may become necessary. We may therefore reasonably expect that the expenditures

in this department for the next three or four years will not be so great.

In the department of road repairs, much improvement has been made in the roadway, by deepening and widening side ditches, levelling up the road bed, and in the renewal of trestle and lattice bridges. We cannot, however, promise ourselves any material reduction of expenses in this department, as it is becoming necessary to renew the present iron by substituting a heavier and more substantial rail. And while on this subject it may be as well to state, that by a comparison with other railroads in our country, we are fully satisfied that if we had a heavy iron rail, the expenses of repairs of roadway, locomotives, coaches and cars, would be reduced to a sum nearly equal to double the interest on the additional cost of such a road, and besides this it would give confidence to travellers, increase the business, and certainly greatly facilitate the operations of the company.

In the original outlay for construction, the limited means of the company, no doubt, influenced the engineer to recommend, and the board to adopt, the flat rail. This has been the unfortunate mistake in the construction of many of our southern roads, and is the chief cause why they have been unprofitable to stockholders, while in almost every instance in our country where the iron rail has been used, the roads have proved profitable to the stockholders. When we look at the business done on our road, and the great annual increase of freight and local travel, we cannot doubt that if we could command the means to renew the whole road with the iron rail, that the local business alone would support it, independent of the transportation of the mail, and the long or through travel.

During the past year the fare on the line has been reduced 20 per cent., and part of the time 50 per cent., yet the receipts from passengers have increased, and exceed that of any former year, and this increase has been greater on our local or way travel, in proportion, than on the long travel.

We find the freighting business increasing so rapidly, that we cannot at present meet the demands upon our transportation department. So great is the increase that two additional trains would find constant employment, notwithstanding a heavy outlay has been made during the past year for motive power.

With these evidences of the increasing business and usefulness of the road, we cannot doubt its final triumph over the ill founded prejudices that have existed against works of internal improvement in our State.

And besides this, when we institute a comparison between the financial condition of this work and similar improvements in our sister States, we are struck with the smallness of our indebtedness, and have still stronger reasons to look forward with confidence to the time when our stock will be sought after as a good investment of capital. If our State will only extend to us the fostering aid which States north and south of us have done for similar works within their limits, we would be enabled to renew the road promptly, and forthwith insure a profitable return to individuals and to the State, as shareholders, and make manifest to the people at large the usefulness of such works.

It may be objected that the State has already aided this road. She has, to a limited extent, but not sufficiently so to render her aid permanently useful to us. And besides, she is amply secured for any credit she has given to us, by her *liens* upon the road and its property—she has helped us so far that we can see land ahead, but before reaching it she requires that we be tied hand and foot, by mortgages to secure her against *her own citizens*, so that, in reality, we are in as bad condition as though no aid had been rendered—unless further aid be extended to enable the company to put the work on a firm basis.—Bound as we are to the State, we can apply to no other source for relief. The property of the company is ample to justify us in asking credit for a sum sufficient to renew the road, but we have no pledge to secure the payment of a large sum, if required, as the State has us tied up.

Therefore, with deference to the opinions of others, we would respectfully suggest the propriety of appealing to the State for an extension of her credit to us, for such an additional amount as may be necessary to enable us to put down new iron on the road, and to assist us in carrying out the original plan of making a connection of our road with the South Carolina roads, and thus render the sums already invested available.

As well might the farmer, who had built but half his fence, expect to protect his crop, and gather it at harvest time, as for the State to stop short with works in which she, conjointly with her citizens, has embarked, before they are completed, and expect to reap the profits. The policy is to go on until one or more enterprises undertaken within her limits is finished. It is useless to look back and find fault with mistakes which occurred in the commencement of our railroad system. Experience has pointed out the way to avoid similar errors, and how to correct them.—The true policy, therefore, is to look ahead, and see how the investments heretofore made can be rendered profitable.

If the State will lend her credit for a reasonable time, and for a sum sufficient to relay this road with a heavy iron rail, and permit the company to increase the capital stock to an amount equal to the whole cost of the road and the contemplated improvements, and give to the original stockholders the choice to subscribe for the additional stock, whenever it might be deemed advisable to dispose of it to meet the payments of the debts as they become due, there is not a doubt but that the stock will be so much enhanced in value as to be sought after. It is only necessary to give permanency to the work to render the stock valuable with even the present business of the road; if not with our own people, it would be so looked upon by capitalists in other states. We could point to similar works in our country, owing nearly ten times the amount of debts for which this company is liable, paying dividends, and their stock above par value; and the great reason doubtless is, that they have substantial roads, on which the expenses of repairs and transportation are not one half, in proportion to the business done, that they necessarily are upon our road.

The amount of indebtedness of a company or individual is not a criterion by which to judge of the wealth of the individual, or of the value of the stock of a company. The business done, and the property upon which the debt is made, is the proper standard by which to judge of their value. A railroad company may owe the entire cost of their road, say five millions of dollars, and yet their stock may be a good and safe investment of capital, providing the income after paying expenses, should be double the amount of the interest. So that it is not the amount of debt but the business done, that determines the value of railroad stock. A debt of a company that does not engage in hazardous speculations, is very different from individual indebtedness, because, if the business is regular, a certain calculation can be made upon the income to meet the debt.

We would therefore recommend to the company that an earnest appeal be made to our next legislature, asking aid to enable us to purchase new and substantial iron to relay the road. If they will grant this, we feel fully assured that all interested will feel and realize the great benefits which should legitimately result from our enterprize. We repeat it, that with the present business of the road, it will be valuable stock, and especially if the Wilmington and Manchester road be constructed—*and this brings us to that subject.*

Since your extra meeting in March last, much attention has been given to this important work; much labor has been bestowed in collecting and comparing statistics of the country through which it is proposed to be constructed, all of which tend to confirm this board in the belief that the stock in said road must yield an annual income of over 10 per cent. profit. A committee of yor board has visited the north during the summer, where the statistics made out were submitted to the examination of gentlemen of practical experience upon such calculations, and they concurred in the opinion that our estimates of profits, based upon the population and products of the counties and districts through, and adjacent to which, the line runs, were below, rather than above, the truth. They further remarked that the stock in such a work, promising such results, would readily be taken up, if located in their section of country. It is not a lack of means, but of confidence, in the citizens of our State, which retards this work. We would, therefore, give a synopsis of our investigations on this important subject, premising that we are fully satisfied of the correctness of the deductions from these calculations, and therefore recommend them to your favorable consideration.

And first, to compare the business of the Wilmington and Raleigh road, and the population upon which it depends for support, with the population of the country through which the Manchester road will pass, gives us the following data, viz:

POPULATION.	
Dublin	11,182
Sampson	12,157
Wayne	10,891
Edgecombe	15,708
Nash	9,047
Halifax	16,865
	76,850

From these counties, with a population of 76,850, the local business for the last year amounted to $102,243 14. Now the counties and districts through and adjoining to which the line of the Wilmington and Manchester road runs, has a population of 130,967. By the rule of proportion as 76,850 : 102,243 14 : : 130,967 :

The answer is	$176,538 92
And to this add half the present through travel on the Wilmington and Faleigh railroad	70,479 62
And for mail pay	35,000 00
	282,018 54
From this sum deduct the estimated expenses, and for a substantial road they are large	76,000 00
	206,018 54

Now this sum is over 10 per cent. on two millions of dollars. We consider this calculation to be conclusive, because i it is based upon a comparison of facts; but we might go farther, without fear of being considered visionary, because this road completes a line of communication much needed in our country. Instead, therefore, of looking for support from the counties of Brunswick, Bladen, Columbus, Robeson, Richmond and Anson, in North Carolina, and the districts of Marion, Horry, Darlington, Marlboro', Chesterfield and Sumter, in South Carolina, we open a door to the whole of South Carolina, Georgia, Florida and Alabama, and a large increase of business from Tennessee, Louisiana, Texas, etc. Intelligent men concur in the opinion that the business on the line, consequent upon the completion of this improvement, would, at the least calculation, double. But to be moderate, we will assume 50 per cent. on the Wilmington and Raleigh railroad, and it will give us, say one half of the amount of through travel; 50 per ct. would equal $35,239 81, which, added to $203,721 35, gives $238,991 16, which is nearly equal to 16 per cent. on the estimated cost of the road, or about 12 per cent. on two millions, which will cover the cost of an iron road.

At your last annual meeting a resolution was passed, making it the duty of this board to apply to our legislature, asking them to join the individual stockholders in creating a sinking fund, by a payment of five dollars on the share, until the debts of the company were paid off. A committee of your board attended at Raleigh for the purpose of urging upon the legislature the propriety of agreeing to said resolution, but no act was taken by the legislature on the subject. It was therefore deemed unnecessary to call on the individual stockholders for concurrence.

Herewith you have the report of the committee on accounts; and that of the engineer and his estimates for the coming year. Also the report of the steamboat agent and the superintendent of machinery—all of which are submitted on behalf of the board.

Respectfully, ALEX. McRAE, Pres't.

To be continued.

James River and Kanawha Canal Company's Report for 1847.

Continued from page 331.

4. PLANS AND PROSPECTS OF THE COMPANY.

The stockholders having, by their proceedings, evinced the prevalence in their body of different sentiments at different times, in regard to the mode of connecting the eastern and western waters which constitute the principal portions of the company's line of improvement, and their policy in this respect appearing still to be unsettled, I take occasion briefly to recapitulate those proceedings, not indeed, with a view to invite any present action on the subject, but to exhibit the present indefinite state of the question, in order to facilitate such future action relative to it, as on further investigation, they may be inclined to take.

The plan adopted at the first meeting of the company in May, 1835, was to carry on the improvement by a canal more or less alternated by the pools of dams in the rivers, from Richmond to Covington; thence by a double track railroad to some point on the Kanawha below the Great falls; and thence to the Ohio by an improvement of the Kanawha, so as to make it suitable for steamboat navigation. This plan was in accordance with the provisions of the act of incorporation.

At the fourth annual meeting, in December, 1838, the extensive western surveys executed in the course of the year being not yet complete, neither the president nor the chief engineer then in office, recommended the final adoption of either of the routes which had been ordered to be examined; but they chose for the basis of the estimates, and strongly intimated as the one finally to be selected, the route from Covington up Dunlap's creek to the mouth of Fork run; thence up that run to the eastern entrance of a tunnel terminating on the western declivity of the Allegheny at Tuckahoe creek; thence down that creek to Howard's creek; thence down Howard's creek to Greenbrier river; thence down that stream to its mouth; thence on the east shore of New and Kanawha rivers to Loup creek shoals below the Great falls of the latter. They also recommended the suppression of one of the tracks of the railroad, which plan was adopted by the stockholders, and afterwards sanctioned by the legislature.

At the seventh annual meeting, in December, 1841, the president proposed to substitute the railroad by a temporary portage of 27 miles, to be formed by placing a M'Adamized surface upon the company's turnpike from Covington to Greenbrier bridge; thence by a mixed system of canal and slackwater navigation down the Greenbrier to its mouth, and thence down New and Kanawha rivers to Loup creek shoals, by slackwater, for the navigation of steamers towing canal boats. Also to improve the Kanawha from Loup creek shoals to its mouth, with a view to steamboat navigation and the towage of canal boats. This plan contemplated the ultimate conversion of the whole improvement into a continuous water line from the head of tide to the Ohio, by substituting at a future day, for the M'Adamized portage across the Allegheny, a canal from Covington up the valley of Dunlap's creek to the mouth of Fork run; thence up that run to a summit level of 5½ miles, (about one-half of it through a tunnel,) terminating on the south fork of Howard's creek; thence down the valley of that creek to its junction with the Greenbrier. This change in the plan of the works was adopted by the stockholders, who directed an application to be made to the legislature for its sanction of the same, and for the means of carrying it out. The application was accordingly made, but did not result in any legislative action.

At the eleventh annual meeting in December, 1845, the stockholders declared it to be their opinion that "the connection between James river and the Ohio should be by a railroad." They also directed that application be made to the legislature for the means to complete the eastern and western connection, and for a release of the company from any obligation to carry its works beyond Buchanan, except to complete the improvement of the Kanawha river from its mouth to Charleston. This application was also made, but with no better success than that last above mentioned.

This was the state of the question at the period of your last annual meeting, when the late president, now the chief engineer of the company, clearly expressed the opinion that the water line was most expedient, provided an adequate supply for the summit level through the Allegheny pass, could be obtained. He further states that although he entertained no doubt as to the accuracy of the data from which other engineers had declared such a supply to be practicable, yet, as his opinion, based merely upon theirs, would not be entitled to any additional weight on either side of the question, he demanded further time, and the opportunity of a personal examination of the ground, before making any recommendation on the subject. Let it be remembered that engineers of high character and acknowledged skill have reported the practicability of a supply for the summit level by two different methods from Greenbrier river. The possibility of its being fed from New river has also been believed by some; but no instrumental surveys, that I am aware of, have sanctioned the idea. As these modes of supply, however, involved very great expense, another one, promising to be cheaper, has subsequently suggested itself; which is, by means of dams and reservoirs in the neighborhood of the line, for the purpose of retaining the waters of the mountain streams, and the drainage of 130 square miles of surface at a height sufficient for the supply of the level. This plan received a favorable report from Mr. Gill after a personal survey in the winter of 1841–2; but the survey not being completed at the time of the president's seventh annual report, which treated of this subject, and the question having never since been agitated, the report of

the survey has not been communicated. I now beg leave, however, respectfully to present it, [App. Q.] as a document well worthy of their consideration, and deserving to be published with their proceedings.

In order to ascertain with great precision, the adequacy of the supply from the source last mentioned, five gauges have been established at different points on the Allegheny pass, under the charge of persons competent to keep an accurate register of the daily fall of rain throughout the year. Besides this, measures have been ordered to ascertain the average volume and velocity of the various mountain streams intended to be resorted to, at a sufficient height for the reservoirs, during every month in the year; and in the course of the next season a careful examination is intended to be made of the nature of the soils on the places designated for the reservoirs, with a view to ascertain their capacity for retaining water.

These investigations, I am sorry to add, have been assailed by ridicule from quarters whence better things were expected; but as they are justified by the example and success of other public works in this country and in Europe, and will be attended with but a trifling expense, and as the object, moreover, is one of paramount importance, I trust the board are too seriously impressed with their responsibilities, and with what they dream the true interests of the company, to be turned aside or influenced by the annoyance of so impotent a weapon. On the contrary, the board (I take leave to speak not merely for those who have lately held, but for those who may hereafter be chosen to that honorable office,) will, I am sure, continue faithfully to collect and candidly to report to you all available information calculated to enlighten your final decision as to the mode of improvement to be adopted beyond Buchanan. They may indeed have their individual preferences—I, for one, certainly have mine—whether in favor of a close monopoly admirably calculated for the rapid transport of the more valuable commodities of commerce, at a price, to be paid in advance, which only such commodities can justify, and very convenient for the even more rapid travel of the prosperous speculator, the enterprising man of business, or the millionaire seeking the alleviation and luxury of our mountain springs;—or whether in favor of an open highway free to all classes to transport in their own boats, and even in the rudest floats, slowly, it is true, but safely, and at a rate so cheap as not to exclude them from market, the bulky products of the mountain region of Virginia, and of the rich valley of the Ohio, and open, moreover, to the pauper immigrants escaped from the famine and the impending convulsions of the old world, to make their way into the interior of our State, and fill its wildernesses and desolate places, and re-people its deserted old fields with an industrious population, whose posterity, at least, under the renovating influence of free institutions, may become a wholesome and valuable yeomanry—notwithstanding the individual preferences of the board, I repeat—whatever may be your final decision on the subject, they will of course aim faithfully to carry it into execution as far as it shall seem good in the eyes of the legislature to place the means of doing so within their control.

But I deem it my duty to caution the stockholders against entertaining for a moment a proposition looking to the surrender to any other corporation, or to the abandonment of the execution by the company, of a single foot of our line frome tidewater to the Ohio. Be it remembered that we have possession, or have the chartered right to take possession of a line which, for the purpose of an avenue from the Ohio to the seaboard, is acknowledged to be the best yet discovered between the St. Lawrence and the Gulf of Mexico—and one which, if it had been opened a quarter of a century ago, when New York was engaged in a similar enterprise, would, I verily believe, have enabled Virginia to retain her former proud preeminence among the States of the Union. We hold a most liberal charter, and what is more, it is secured, at least for a dozen years to come—we have an organization proved by experience to be efficient for every purpose required—we have works which, as far as they are completed and in operation, may safely challenge comparison with any works of the same class in this country—we have a large amount of real estate held by an absolute and perpetual tenure, subject only to the liens of the State, who is herself a large stockholder—we have a growing revenue, as has been evinced by the favorable financial report which I have had the satisfaction to lay before you—and, more than all, thanks to the wisdom and patriotic spirit which guided the councils of the last legislature, we have the means of completing the eastern terminus of our line, and of extending it westwardly into the centre of the rich valley of Virginia. These objects once accomplished, I trust that the improvement by means of the increased trade which it will create and receive, will demonstrate its own vitality, and that, in consequence, the legislature will see proper to continue the safe policy of affording to the company the credit of the commonwealth, so as to enable us gradually to carry the original plan of the enterprise to completion.

It is true that this company has had to pass through rough times and most appalling difficulties—from which, indeed, we are not yet entirely relieved. No one, unless intimately conversant with its concerns for the last eight years, can fully understand those difficulties, or (I will add incidentally,) can truly appreciate the worth of the man whose undaunted and untiring energy in the conduct of its affairs, entitle him to the appellation of "the pilot who weathered the storm," altho', in doing so, as a last resort, he sacrificed himself with Roman devotion to its fury. But in view of all the advantages which I have enumerated, I take occasion to say, that it is now too late any longer to reiterate the oft repeated assertion, that we are a bankrupt and powerless corporation, occupying a prostrate and degraded position. In my humble judgment, we are as able and competent to complete this great enterprise as any other company yet in existence, or even in embryo, who may kindly or ambitiously propose to relieve us of the task. Thus much, I am sure, may be said without necessarity implying a spirit of hostility or oppression towards other enterprises which do not encroach upon or threaten the company's rights; whilst in reference to all such as, attracted by the great superiority of our line, may exhibit, either by overt acts and declarations, or by the necessary tendency of a less traceable policy, a disposition to appropriate any portion of it to themselves, a determination on the part of the company's friends to hold the defensive, and to maintain its rights, whether chartered, prescriptive, implied, or appurtenant, must of course be conceded to be justifiable.

In conclusion, I beg leave to congratulate the stockholders upon the improved aspect of the company's affairs. The gloom that has so long overshadowed us seems breaking away, and the dayspring of a brighter season to be at hand. I trust, therefore, that we shall hear no more of surrendering our charter, and being excused from carrying our improvement to completion; but that, gathering fresh hope and confidence, we shall feel our resolution strengthened to push steadily forward with the enterprise committed to our hands, well assured that, although from its magnitude, and possibly from political causes affecting the finances of the country, our progress may be slower than we could wish, yet that the end once reached, the rewarding harvest will be commensurate with the toil and sacrifices by which it shall have been secured.

All which is respectfully submitted.

W. B. CHITTENDEN, *President.*

22d November, 1847.

POSTSCRIPT.

Since the body of my report was sent to the press, the tidings from abroad, by the steamer ACADIA, have proved to be fearfully confirmatory of the apprehensions to which I have more than once adverted as felt by the board during the past summer, of an approaching financial crisis unusually disastrous in its character.

The board have, therefore, requested me to call the attention of the meeting especially to this important subject, with a view to elicit from the stockholders, after full examination, and a free interchange of sentiments, an expression of their opinion, *whether* under the present aspect of things, the board ought to proceed to place under contract the twenty miles of canal between North river and Buchanan, and the tidewater connection, in the latter part of the next month, according to the advertisement of the chief engineer to that effect, now before the public; *or whether* it will not be more expedient to decline, for the present, to commit the company to a greater amount of expenditures (based upon anticipated sales of the State stock provided for the purpose,) than is involved in the contracts which have already been made.

W. B. CHITTENDEN.

2d November, 1847.

APPENDIX.

A.—Summary Statement of the Receipts and Disbursements of the James River and Kanawha Company for the year ending with the 31st October, 1847.

Old Improvements. Revenue.

Net revenue called for by statement of 1st November, 1846 ..... $57,868 72

Western Improvements.—Kanawha Road.

Receipts:—From tolls at gates and bridges	$8,743 40		
From repairs of Kanawha road, for property sold	574 78		
		9,318 18	
Disbursements on the following accounts:			
Repairs of Kanawha Road.			
General road account	$4,157 29		
Bridge account, (for building and repairing bridges)	1,587 16		
		5,744 55	
Charges on the western improvements, (one-half.)	800 00		
Total disbursements: deduct from receipts		6,544 45	
Net revenue from the Kanawha road			$2,773 73
Kanawha River.			
Receipts:—From tolls		9,046 57	
From interest		170 94	
		9,217 51	
Disbursements on the following accounts:			
Repairing sluices on Kanawha river.	1,213 75		
Expenses of collecting tolls on Kanawha river	950 00		
Charges on western improvements, (one-half.)	800 00		
Total disbursements: deduct from receipts		2,963 75	
Net revenue from Kanawha river		6,253 76	
Net revenue from the western improvements		9,027 49	
Deduct amount overpaid by agent November, 1846		29 72	
Net amount realized from the western improvements			8,997 77
Blue Ridge Turnpike and Ferry.			
Receipts:—From tolls		1,218 65	
Disbursements:—Expenses and repairs		919 60	
		299 05	
Add amount in agent's hands 1st November, 1846		82 70	
		381 75	
Deduct amount now in agent's hands		227 11	
Net amount realized from the Blue Ridge turnpike and ferry			154 64
New Canal.			
Receipts:—From tolls		203,605 60	
Disbursements on the following accounts:			
Expenses and repairs of the canal	54,419 82		
Salaries of agents on the canal	16,925 92		
Total disbursements: deduct from receipts		71,342 74	
Net revenue from the canal			132,262 86
Revenue Accounts.			
Receipts:—From rents of houses, lots, and water power.		8,155 54	
From State's loan of interest money		57,559 36	
			65,714 90
Total revenue			264,998 89
Charges on revenue, viz:			
Dividends of the old James River company		21,000 00	
Dividends on guaranteed loan		85,215 00	
Interest on loan of State stock		15,000 00	
Interest on bond given to the State		24,178 08	
Law expenses, (half retaining fee of counsel)		150 00	
Salaries of officers, (one-half,)		2,390 62	
Pay and mileage of directors, (one-half,)		770 60	
			148,704 30
Net revenue			116,294 59
Richmond Dock.			
Receipts:—From dockage	10,272 80		
From rents	100 00		
		10,372 80	
Disbursements on the following accounts:			
Repairs of Richmond dock	3,513 33		
Agency and collection of tolls	1,387 24		
		4,900 57	
Net revenue from the dock		5,472 23	
Add amount in collector's hands 1st November, 1846		918 95	
		6,391 18	
Deduct amount now in collector's hands		1,022 24	
Net amount realized from the dock		5,368 94	

New Improvements.

Balance on hand 1st November, 1846			3,565 26
Receipts:—From stockholders other than the State		3,987 88	
From State's loan for resumption of works		163,850 00	
From interest, (premium and accrued int. on do)		3,649 61	
From interest on stock and other arrearages		2,038 19	
From bills payable		5,764 80	
From B. E. Poitiaux, agent, (balance of collections)		376 61	
S. & P. Garland, (balance)		4 61	
			179,671 70
And net revenue as above, applied to general liabilities, and to be refunded			116,294 59
Also net income from the dock as above			5,368 94
			304,900 49
Deduct net revenue called for by statement of the 1st Nov., 1846			57,868 72
			247,031 77
Disbursements on the following accounts:			
Pay of engineers, 2d division of canal		3,067 57	
Expenses of engineers, 2d division of canal		1,127 60	
Cement		1,147 37	
Construction of canal		1,050 22	
Construction of canal, 2d division		270 43	
Dams, 2d division		272 16	
Bridges, 2d division		350 00	
Superintendents of masonry, 2d division		200 00	
Tidewater connection		1,185 55	
Acquisition of lands		12,023 95	
South side connection		1,060 56	
Interest		3,454 16	
Expenses of general meetings		2,333 88	
Expenses of president and directors		1,462 65	
Law expenses		861 32	
Salaries of officers, (one-half,)		2,390 63	
Pay and mileage of directors, (one-half,)		770 60	
Bills receivable		2,856 50	
Loans by individual directors, (amount paid off,)		4,000 00	
Post notes: amount redeemed		1,805 00	
Certificates receivable: amount redeemed		6 80	
Certificates receivable for dockage: am't redeemed		6,952 23	
Interest on certificates receivable for dockage		1,183 88	
			50,133 06
			196,878 71
Viz: In the Bank of Virginia		196,770 09	
In the Exchange Bank of Virginia		128 62	
			196,878 71

B.—Summary Statement of Receipts and Disbursements, from the 27th June, 1835, to the 31st October, 1847.

Old Improvements.—Lower Canal. Revenue.

Receipts:—From tolls		253,373 63	
From rents		38,334 11	
From property sold		100 13	
		291,807 87	
Disbursements on the following accounts:			
Reconstruction of Bosher's dam	6,597 92		
Repairs of Maiden's Adventure dam	3,430 67		
Expenses of the lower canal	15,304 96		
Salaries of agents on the lower canal	35,103 43		
Total disbursements: deduct from receipts		60,436 98	
Net revenue from the lower canal			231,370 89
Western Improvements.—Kanawha Road.			
Receipts:—From tolls at gates and bridges		131,920 15	
From rents of ferries		37 50	
From property sold		2,614 30	
From labor of company's force		71 00	
		134,642 95	
Disbursements on the following accounts:			
Repairs of Kanawha Road.			
General road account	77,268 13		
Bridge account	21,875 63		
Contingent account	851 20		
Tolls on Kanawha road	120 00		
Charges on western improvements	9,514 02		
Total disbursements: deduct		109,628 98	
			25,013 97
Kanawha River.			
Receipts:—From tolls		82,101 74	
From interest		1,316 25	
		83,417 99	
Disbursements on the following accounts:			
Repair'g sluices on Kanawha river	9,447 88		
Expenses of collecting tolls on do	12,308 46		
Charges on western improvements	9,514 02		
Total disbursements: deduct		31,270 36	
			52,147 63
Net revenue from western improvements			77,161 60

Blue Ridge Canal.

Receipts:—From tolls on the canal	18,254 38	
From tolls on turnpike and ferry	6,459 93	
From labor of the company's hands and property sold	41 50	
	21,755 81	
Disbursements on the following accounts:		
Repairs of the Blue Ridge canal	6,967 63	
Salaries of agents & expenses of Blue Ridge canal	12,661 03	
Total disbursem'ts: deduct	19,628 66	
Net revenue from the Blue Ridge canal		5,127 15

Blue Ridge Turnpike and Ferry.

Receipts:—From tolls	3,351 72	
Disbursements:—Expenses & repairs of Blue Ridge turnpike and ferry	2,682 59	
	669 13	
Deduct amount now in agent's hands	227 11	
Net am't realized from Blue Ridge turnpike and ferry		442 02

New Canal.

Receipts:—From tolls	1,137,529 80	
From penalties	746 70	
From expenses and repairs of canal, refunded	205 75	
From salaries of agents on the canal, refunded	31 25	
	1,138,513 50	
Disbursem'ts on the following accounts:		
Expenses and repairs of the canal	282,195 92	
Salaries of ag'ts on the canal	125,250 57	
Freshet of 13th July, 1842	67,542 23	
Total disbursements: deduct	474,988 02	
Net rev. from new canal		663,525 48

Revenue Account.

Receipts:—From rents of houses, lots, and water power, and from the Blue Ridge turnp. and ferry	45,519 16	
From State's loan of interest money	57,559 36	
From interest on loan of State stock	9,073 35	
		112,151 87
Total revenue		1,089,779 01
Charges on revenue:		
Dividends of the old James River company	262,500 00	
Dividends of the James river and Kanawha Co.	11,542 00	
Dividends on guaranteed loan	530,320 00	
Less receipts of accrued iter'st from date of bonds to date of their issue	18,064 82	
	512,255 18	
Interest on loan of State stock	77,497 25	
Interest on bond given to State	37,789 42	
Charges on western improvements for discount on western bank notes	248 35	
Amount refunded to individual directors, by order of the stockholders	602 16	
Loss by individual directors	1,782 00	
Salaries of officers, (one-half,)	39,624 57	
Pay and mileage of directors, (one-half,)	17,275 76	
Law expenses	1,690 00	
Extra repairs of the Blue Ridge canal	9,715 23	
Salaries of agents on the Blue Ridge canal	962 50	
		973,484 42
Net revenue		116,294 59

Richmond Dock.

Receipts:—From dockage.	49,137 81	
From rents	371 67	
	49,509 48	
Disbursements: repairs of Rich'd dock	13,715 26	
Agency and collection of tolls on the dock	8,077 82	
	21,793 08	
Net revenue from the dock.	27,716 40	
Deduct amount now in collector's hands	1,022 24	
Net amount realized from the dock	26,694 16	

New Improvements.

Receipts:—From stockholders other than the State	1,408,938 81	
From the State on her instalments	1,035,800 00	
From scrip of the State received on her instalm'ts.	955,000 00	
From accrued interest on State scrip before sale thereof	50,181 35	
From scrip of the city of Richmond	467,208 00	
From scrip of the corporation of Lynchburg	52,500 00	
From loan of State stock	250,000 00	
From guaranteed loan	1,400,000 00	
From bond given to State.	268,645 33	
From State's loan for resumption of works.	163,850 00	
From interest, (premium and accrued interest on ditto)	3,649 61	
From interest on stock & other arrearages	77,499 92	
	81,149 53	
From bills payable	5,764 80	
From "improvements of the James river comp'y," for land sold	28,484 46	
From "instruments purchased," refunded	4 29	
From "expenses of opening quarries," refunded.	3 38	
From "cement," sold.	342 35	
From "construction of canal," refunded	420 05	
From "reconstruction of lower canal," refunded.	9 00	
From "locks," refunded.	298 10	
From "aqueducts," refunded	20 00	
From "culverts," refunded.	700 42	
From "reconstruction of the last level of the lower canal," refunded	1,904 65	
From extra repairs of the Blue Ridge canal," refunded	45 00	
From "importation of Scotch mechanics," refunded	20 94	
From "importation of German laborers," refunded	1,783 98	
From "acquisition of lands," refunded, and for lands sold	12,942 53	
From "law expenses," costs collected	638 98	
From "post notes," (balance unredeemed,")	5,510 00	
From "certificates receivable," (balance unredeemed)	88 45	
For "certificates receivable for dockage," (balance unredeemed)	1,399 00	
		6,193,653 40
Add net revenue as above		116,294 59
Add net income from the dock		26,694 16
		6,336,642 15
Disbursements on the following accounts:		
Pay of engineers	178,317 37	
Pay of engineers, 2d division of canal	29,985 35	
Pay of engineers, 3d division of canal	914 28	
Pay of engineers on the railroad	6,749 73	
Pay of engineers on Kanawha river	1,051 10	
Pay of engineers on Richmond dock	3,808 86	
Expenses of engineer corps.	31,349 94	
Expenses of engineers, 2d division of canal	8,119 15	
Expenses of engineers, 3d division of canal	767 77	
Expenses of engineers on the railroad	9,238 65	
Expenses of engineers on Kanawha river	1,307 46	
Expenses of engineers on Richmond dock	364 18	
Superintendents of masonry, 2d division	200 00	
Instruments purchased	4,334 78	
Expenses of opening quarries	1,618 39	
Cement	163,269 26	
Construction of canal, 1st division	1,822,989 47	
Construction of canal, 2d division	257,408 18	
Reconstruction of the lower canal	323,329 50	
Aqueducts	320,777 81	
Locks, 1st division	580,544 41	
Locks, 2d division	92,491 26	
Culverts, 1st division.	428,954 10	
Culverts, 2d division.	1,408 98	
Lock houses	15,954 28	
Dams, 1st division	117,263 99	
Dams, 2d division	5,889 08	
Bridges, 1st division	182,065 81	
Bridges, 2d division	3,166 69	
Reconstruction of the last level of the lower canal.	441,291 63	
Waste weirs	9,803 61	
Gauging dock	10,374 42	
Extra repairs of the Blue Ridge canal	4,028 38	
Beaver dam improvement.	4,020 67	
Importation of Scotch mechanics	2,201 87	
Importation of German laborers	7,250 69	
Turnpike at Blue Ridge canal	73 80	
Richmond dock, (purchase of,)	98,754 13	
Improvements of the Richmond dock	134,865 57	
Tidewater connection.	1,185 55	
South side connection.	6,114 58	
Acquisition of lands.	376,609 26	
Improving navigation of James and Jackson rivers	600 00	
Interest	198,879 34	
Discount on loan of State stock	26,238 60	
Interest and expenses of temporary loan on pledge of sterling bonds	18,430 09	
Stock of the State of Virginia	8,454 52	
Expen. of guaranteed loan.	7,395 75	
Expenses of issuing post notes	3,661 87	

Subscribers to the James river and Kanawha Co.	1,584 26	
Expenses of general meetings	8,897 20	
Expenses of president and directors	32,883 85	
Law expenses	15,517 68	
Salaries of officers, (one-half,)	39,624 57	
Pay and mileage of directors, (one-half,)	17,275 76	
Interest on certificates receivable for dockage	2,670 21	
Bills receivable	754 22	
General James Hamilton.	63,820 45	
B. E. Poitiaux, agent, (securities in his hands)	1,749 00	
		6,139,743 44

Balance on hand, per bank returns 196,898 71

E. E. C. O. GERBERDING, *Secretary.*

Office of the James River and Kanawha Company.

Richmond, 15th November, 1847.

C.—Statement Showing the Amount of Actual Tonnage, the Equivalent Tonnage for one mile, the Equivalent Through Tonnage, the Annual Average Rate of Tolls per ton per mile, the Amount of Tolls on Tonnage, and on Passengers, the Net Amount of Tolls after deducting Drawbacks, the Annual Expenses and Repairs of the Canal, with Salaries of Agents, and the Net Revenue for the period stated.

	Actual tonnage conveyed on the canal.	Equivalent tonnage for one mile.	Equivalent through tonnage.	Average rate of toll per ton per mile, in cents.	Amount of tolls on tonnage.	Amount of tolls on passengers.	Net amount of tolls after deducting drawbacks.	Expenses and repairs of canal, and salaries of agents.	Net revenue.
From 1st January to 30th November, 1841.	110,141·7	6,426,271·7	44,015·6	1·817	$116,811 21	$5,366 36	$121,589 29	$62,140 96	$59,448 33
" 1st Dec'r, 1841, to 30th Nov'r, 1842.	112,707·5	5,802,007·2	39,740	1·782	103,403 15	5,797 74	109,228 69	54,125 74	55,102 95
" 1st Dec'r, 1842, to 31st Oct'r, 1843	113,742·6	6,258,896·1	42,869	2·62	163,993 02	4,299 05	167,894 92	56,658 03	111,236 89
" 1st Nov'r, 1843, to 31st Oct'r, 1844	122,695·2	6,009,719·4	41,162	2·889	173,595 50	4,189 29	177,683 58	50,523 68	127,159 90
" 1st Nov'r, 1844, to 31st Oct'r, 1845	134,759·3	7,108,163·4	48,686	2·569	182,502 25	5,313 69	187,085 80	60,765 35	126,320 45
" 1st Nov'r, 1845, to 31st Oct'r, 1846	125,653	7,640,263	52,331	2 158	164,896 12	7,258 04	171,188 62	51,889 29	118,299 33
" 1st Nov'r, 1846, to 31st Oct'r, 1847	146,742·4	8,588,821	58,828	2·27	195,001 22	8,708 79	203,605 60	71,342 74	132,262 86

We omit statement D, which gives the quantity of the principal articles transported in each month since January, 1842, to October, 1847, giving merely the totals for the year ending October 31st, 1847, as follows, viz:

	Down.
Hogsheads of tobacco	14,467
" stems	1,598
Boxes manufactured tobacco	60,815
Barrels flour	76,767
Bushels wheat	242,937
" corn	145,711
" oats	4,825
Tons pig iron	8,533
" bar iron	109½
" coal	27,446½
" stone	11,651
" castings	556
" bar and pig lead	159½
" hay	60
Kegs nails	11,207
Bags shot	3,286
Articles shipped up.	
Sacks salt	32,366
Tons plaster	3,548½
" coal	875
" castings	436
" bar iron	260
Barrels fish	3,580½
Kegs nails	4,522
Tons steel	38½

E.—Cost of Ordinary Repairs on the Canal for the year ending October 31st, 1847.

Referring to the secretary's statement of the receipts and disbursements, [document A,] it will be seen that, leaving out of view the accounts of the western improvements, the Blue Ridge turnpike and ferry, of the second division of the canal, of the tidewater connection, and an old balance due for construction of canal, 1st division, and excluding also the refunding of loans, the payment of interest, and of the annuity to the old James River Co., and the redemption of scrip, the disbursements of the year have amounted to $95,557 55

From which deduct accounts for expenses and repairs, salaries of agents, law expenses, and for the general administration of the company, which accrued prior to the commencement of the year $20,916 95

Also payments on account of old assessments for acquisition of lands, former and recent awards of damages to land-holders, and for lots on the basin and dock purch'd. 12,023 95

32,940 90

Leaving for the balance paid on account of the expenses and operations of the year 62,616 65

This balance comprises the following expenditures, which do not properly belong to ordinary expenses and repairs, viz:

Sundry small items of work belonging to original construction 2,462 94

Sundry reconstructions and improvements 7,127 31

Sundry extraordinary repairs rendered necessary by unusual disasters, and by the withdrawal of the water in May last, to clean the canal. 9,377 60

18,967 85

Which being deducted, leaves for the balance paid on account of the ordinary expenses and repairs of the canal, and of the general administration of the company 43,648 80

But to this ought to be added the portion of the salaries of officers and agents, and of negro hire, payable on the 1st January next, which accrued prior to the 1st November 7,050 13

And unsettled accounts for supplies, materials, labor, etc., belonging to ordinary expenses and repairs 2,500 00

9,550 13

Making 53,198 93

for the ordinary expenses and repairs of the canal, and the expenses of the general administration of the company, for the year ending on the 31st October last.

We also omit the general statement giving the receipts, expenditures, and net revenue for each year, on the different divisions, from 1835 to November, 1847, as statement A gives that statement for the year ending November 1, 1847, and B gives the total receipts, expenditures, and net revenue from June 27, 1835, to November 1, 1847.

RAILWAY LEGISLATION IN NEW YORK.

The following bills, in relation to railroads, were passed by the legislature of New York, at its last session:

To amend an act, entitled an act to incorporate the Schenectady and Catskill railroad company, passed May 14th, 1846.

To amend the charter of the Troy and Greenbush railroad assoctation.

Amending an act, entitled an act incorporating the Saratoga and Washington railroad company.

Extending the time for the construction of a railroad and slack water navigation from or near Port Bent, on lake Champlain to Boonville.

To authorise the formation of railroad corporations.

To declare the public use of a railroad from Albany to Cohees.

Incorporating the Sackets Harbor and Saratoga railroad company.

To declare the public use of a railroad from Auburn to Ithaca, through the towns of Fleming and Scipio, and down the valley of Salmon creek.

To delare the public use of a railroad from Buffalo to the State line between New York and Pennsylvania.

To declare the public use of a railroad from Syracuse to Binghampton.

To determine and decide the public utility of a railroad from the city of Troy to the easterly line of the county of Rensalaer.

To provide for the construction of a railroad from Genesee to the Genesee valley canal.

To declare the public utility of a railroad from Fishkill landing to the easterly line of the State of New York.

In relation to the Tonawanda railroad company.

In relation to existing railroad corporations.

Improvements in Railway Wheels.

The *Carbon County Gazette* says that "a patent has been taken out by Mr. Newton, for a communication of a peculiar method of casting iron wheels for locomotive engines and railway carriages, the particular object of which is to cool uniformly all parts of the casting at the same time, and thereby prevent fractures in the wheel from irregular shrinking. From the time when wheels with a chilled hub and flange were first brought into use, the difficulty of casting them has been known, for the chill sets and cools the metal of the rim before the spokes or parts connected with the hub, and these, in cooling, shrinks, and either break, or become so weak as to break on the least strain. To obviate this, the hub was for a long time made in sections, to enable it to open and yield to the contraction of the spokes, but this was attended with a diminution of strength, and the necessity of putting on wrought iron hoops or bands. The patentee has sought to avoid these objections, which is effected by casting the whole wheel in a chill, and thus cooling all the parts at the same time, and without undue strain on any part. For casting a wheel of this kind a circular metal mould is to be constructed in several pieces, which, when put together, will leave an internal recess, or chamber, to receive the molten metal, corresponding to the figure of the intended wheel when complete. A quantity of molten metal being poured into the mould, the cast wheel will be produced, the inner face, flange, and outer periphery, of the felloe being chilled and hardened by the cold metal surfaces,

against which the molten iron had come in contact, and by which means all parts of the casting, as it cools, will shrink uniformly, and have no tendency to strain and crack, or separate one portion from another."

It is possible that this process may make a good wheel, but we doubt it. Several attempts, if we are not mistaken, have been made to cast wheels in a chill throughout—and probably Messrs. Jagger, Treadwell & Perry, of Albany, Mr. Ross Winans, of Baltimore, and Mr. Williams, of Auburn, N. Y., can give Mr. Newton useful information on this subject.—[Ed. R. R. J.]

PENNSYLVANIA RAILROAD COMPANY. Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law. GEORGE V. BACON,

May 13—8t Treasurer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.

January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO., Philadelphia.

ROBERT NICHOLS, Agent,

26tf No. 79 Water St., New York.

DIRECT ACTION ENGINES

FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,

AND ALSO

THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,

28 Platt street, New York.

May 6, 1848.

BREESE & ELLIOTT, IMPORTERS OF—and dealers in—Iron and Steel, 245 Water st., New York. Railroad Tires furnished to order.

April 29, 1848. 1m18

FULLER'S PATENT INDIA RUBBER Railroad Springs.—These Springs are composed of alternate layers of India Rubber rings and Metallic plates, and are superior to those made of steel, for the following among other reasons:—

First—On account of their extreme simplicity, and the impossibility of their being broken or damaged.

Second—Their lightness: the elastic malerial not being more than one-tenth of the weight of steel springs of similar strength, thereby saving many tons of dead weight in a long passenger train—a matter of great economy in working railroads.

Third—The facility with which the power of these springs may be regulated: first, by increasing or diminishing the diameter of the ring; and next, by increasing or diminishing the number of the rings in each Spring.

Fourth—It is a particularly good material for Buffers; because, when first pressed, they are much more elastic, and more easily acted on than steel; whilst the power of resistance, after yielding to a certain extent, increases in such a ratio as to prevent the possibility of the Buffer-head being brought to a *dead hard stop*. And from this arrangement, the most valuable results may be anticipated in cases of collision.

Fifth—The easy motion given to the cars and engines which are fitted with these Springs—there being none of that jarring or vibratory motion so apparent with steel springs; and consequently there is a great saving of wear and tear, both to the cars and the permanent way. The recoil of a steel spring is frequently more harsh than the actual giving of the spring in the first instance, and this recoil is altogether obviated by India Rubber Springs.

Sixth—The cost of India Rubber Springs will be found less than those of steel, and they are calculated to last very much longer.

These Springs and Buffers have now been tried for upwards of three years, under very able superintendence, and with the most decided success. They are in general use upon the principal lines in England and Scotland, (among which may be mentioned the Great Western, the Midland, the London and North-Western, the Eastern Counties, London and Brighton, London and Dover, North Staffordshire, and Caledonian Companies.) They are also used in other parts of Europe. The patentee, therefore, feels justified in stating that he is prepared to furnish not only a more efficient Spring and Buffer than any hitherto in use, but a more durable one, and upon terms which will effect a considerable saving to Companies.

The most satisfactory trials have been made as to the non-liability of this material being affected by extremes of cold or heat; nor will any amount of pressure permanently alter its shape or structure. The patentee therefore submits the invention to the public, with the confident anticipation of its successful and general adoption.

The patent for this invention was granted to Mr. W. C. FULLER, in October, 1846, and the same gentleman has patents for it in England and other countries in Europe. The sole Agent in the United States is Mr. G. M. KNEVITT, who will show models and drawings of the various modes of application to *passenger cars, engines, tenders, wagons, etc.*, and give further particulars as to its satisfactory working; and is prepared to supply the Springs in any quantity, or to grant licenses for manufacturing them.

Principal Office, 78 Broad Street, New York.

And a Branch Office at Messrs. JAMES LEE & CO.'S, 18 India Wharf, Boston.

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.

St. Johnsbury, Vt.

Agents { FAIRBANKS & Co., 81 Water st. N. York. { A. B. NORRIS, 196 Market st., Philad.

April 22, 1848. 1y*17

WILLIAM JESSOP & SONS,

CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,

91 John Street, New York.

Also by their Agents—

Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC.,

Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY,

Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

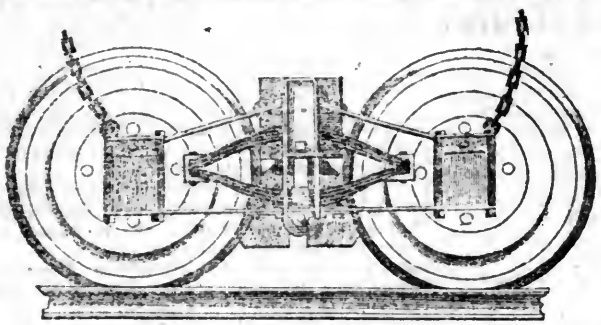
TOOLS.

Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.

WM. B. LEONARD, *Agent.*

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

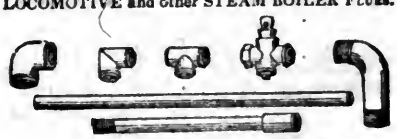
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TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee. G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing en loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

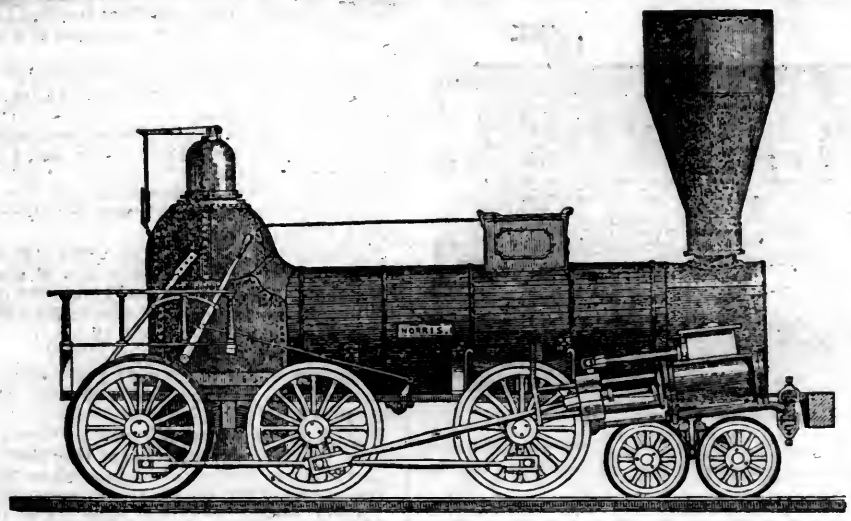
Furnished and fitted at short notice.

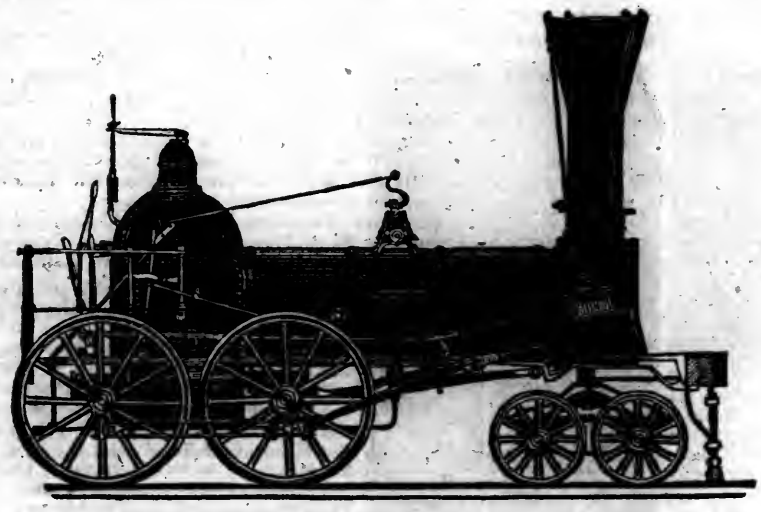
Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works.

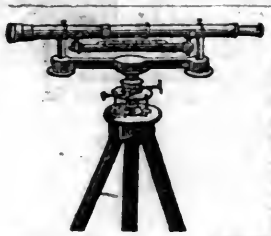
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent*.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y•2t

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

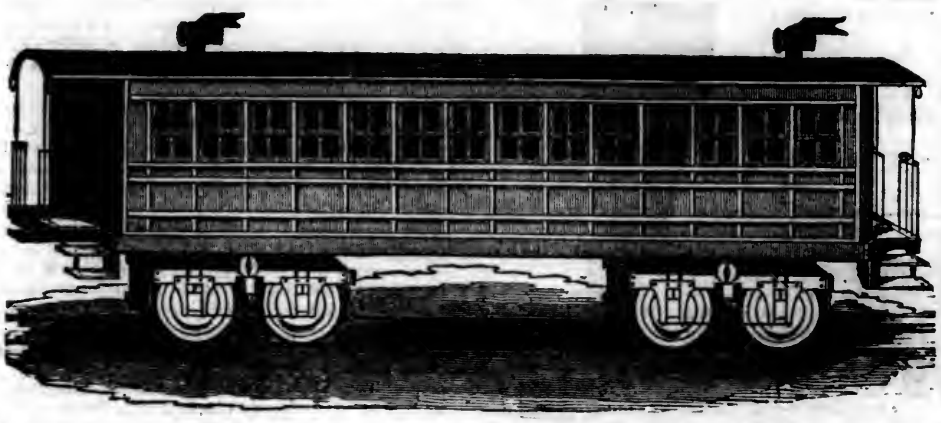
HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 1 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:
For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5½ p.m.
For Reading 7, 8½ & 11½ a.m., 2½, 4½, 5½, 6½ & 10 p.m.

Trains leave for Boston as follows, viz:
From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m.
From Reading at 6, 7½, 9½, 11½ a.m., 1½, 4, 7½, 9½ p.m

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.
Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.
CHAS. MINOT, *Sup't.*
Boston, April 15, 1848.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and ½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
W. RAYMOND LEE, *Sup't.*

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelp'a.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

3219 J W. STOWELL. Sup't

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M, and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2 25 and	1 90
" Pottsville "	34	1 40 and	1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs., 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Au g. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

2tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to	
Lebanon	$1 00
" " " Xenia	1 50
" " " Springfield	2 00
" " " Columbus	4 00
" " " Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

17tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves....Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass..... Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass..... Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass..... Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass..... Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at. Buffalo....	5½ A.M.	12 M....	6 P.M.
Going east.	**1st train**	**2d train.**	**3d train.**
Leaves.... Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass..... Rochester.	12½ M....	7 P.M.	12 M.N.
Pass..... Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass..... Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass..... Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at. Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

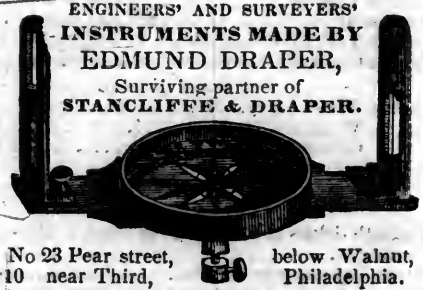
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square, "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 23.] SATURDAY, JUNE 3, 1848 [WHOLE No. 624 VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, June 3, 1848.

☞ The attention of CONTRACTORS is specially called to the following advertisement of the Baltimore and Ohio railroad company.

TO CONTRACTORS FOR MASONRY.

PROPOSALS, under seal and suitably endorsed will be received by the undersigned up to SATURDAY, the 10th of June, proxo., inclusive, for the construction of two large stone viaducts upon the Washington Branch of the Baltimore and Ohio Railroad over the Little Patuxent river near the Savage factory and Northwest Branch at Bladensburg.

These viaducts will be heavy structures, well worthy the attention of Contractors of the first capacity for this kind of work, who are therefore invited to examine them. The plan of the Bridges may be seen at the Company's office, No. 23 Hanover street Baltimore, where full information will be given by C. P. Manning, Master of Road.

Unexceptionable recommendations must accompany the proposals.

By order of the President and Directors.

BENJ. H. LATROBE, Chief Eng.

Engineer's Office, Baltimore & Ohio R. R.
2t23 Baltimore, May 15th, 1848.

RAILROAD IRON—500 TONS HEAVY ⌶ Pattern—to arrive. For sale by

DAVIS BROOKS & CO.
June 3. if 68 Broad street, New York.

Chilled Cast Iron Wheels.

We referred in our last to improvements in railway wheels, by Mr. Newton. We inferred from that description that the mould, in which the wheel is cast, was entirely of metal, but we learn from the specification that only *one* side, and the ring by which the tread and flaunch are formed, are of metal, and the other side is of sand—thus chilling only one side of the wheel. This process may remedy the difficulty apprehended, to some extent, though we fear not entirely. It appears, however, that Mr. Newton has confidence in his invention, as it has been patented in England. Mr. Newton, it appears, is attached to the English patent office The invention is not his, but communicated to him—whether from abroad, or at home, we do not learn.

Dee Bridge.

The Railway Gossip says that "Capt. Simmons, the government officer, inspected the Dee viaduct structure on Tuesday, and will make his report to the board of trade. The bridge was repeatedly tested by heavy luggage trains, purposely loaded, and moved by two heavy locomotives. The speed at times was as high as 40 miles an hour. The utmost deflection obtained was 3-16ths of an inch in the span of 30 feet, and the vibration is said to have been scarcely perceptible."

French Railway Repairs.

It is said that the injuries inflicted on several of the lines during the late disturbances in France are actively repairing. The works on the bridge of Amiens are urged on. The working of the line from Rouen to Paris terminus will be recommenced immediately after its reception by the Ponts et Chaussees. The damage to the stations on the line at Maisons, at Nantes, and at Rouen, is now almost repaired. The works for the restoration of the Northern line are terminated on the first section. No injury has been done to the Gard, the measures taken by the authorities preventing all criminal attempts. The same may be said of the Avignon and Marseilles. The works undertaken on the Rhone for the conconneeting bridge with the line from Bordeaux to Cette, and those for the construction of the viaduct over the Durance and the extension of the railway to Avignon, are progressing rapidly. The Montereau and Troyes has submitted for the approval of the administration its tariff for passengers and goods. This is the last formality, so that the opening of the line will soon take place.

Camden and Amboy Railroad.

Its Privileges and its Abuses.

We commenced, in our last, a series of extracts from the pamphlet of "*a citizen of Burlington*," in relation to the management and *mismanagement* of these companies. Our object is to bring the subject before the people of New Jersey, that *they* may remedy the evil, if possible; and we shall let the writer speak for himself in his own way. At page 15 he says:

"In regard to one of the modes of corruption, some information is now before us. The annual report contains a list of persons who travel on the road, free of charge, many of them with their wives and families; and of newspapers whose publishers, editors, etc., go free of cost. At a very moderate estimate there are 600 who thus travel at the public expense. Allowing each of these to travel but four times back and forth, we have the sum of $20,000 distributed, and this is probably not even one-half of the amount. That the list is not complete, I know."

In relation to the proper markets for New Jersey, he says:

"The great market for food of all kinds is at the north and east, for there the people are largely engaged in manufacturing, and consume much food while producing little. It is that market, therefore, that every farmer in Jersey should desire to send his products, and not to Philadelphia, which has behind it an immense country whose products are constantly pressing forward, and much of them obliged to seek a market in New York or Boston. Were access to the New York market free, not a pound of the produce of Burlington county would go to Philadelphia, because it would always command far higher prices in New York.

"I will now show how the people of the State of New York communicate with the great market, and then compare it with the facilities afforded to those of New Jersey. The Erie railroad passes through Goshen, the country seat of Orange county, which is seventy miles from New York, almost precisely the same distance as Burlington. Of those seventy miles, forty-six are by railroad, making its relative position almost precisely the same as that of Burlington. The Erie road has no through travel to support it. The Camden and Amboy road has a large through travel, and travelling should be, therefore, *far cheaper* from Burlington than from Goshen. Let us now see what are the facts.

"The farmer of Goshen can go to New York and return, or the provision dealer can go to Goshen and back, four times in a year, for *nine dollars*. The farmer of Burlington can do the same thing for *twenty dollars*. The farmer of Goshen can go to New York, and return, once a month, *for twenty dollars and twenty-five cents* a year. The farmer of Burlington can do the same thing for *sixty dollars*. The farmer of Goshen can go to New York and return twice a month for *thirty-six dollars*. The farmer of Burlington can do the same thing for *one hundred and twenty dollars*. The farmer of Goshen can go to New York and return three times a month for *forty-eight dollars and sixty cents*. The farmer of Burlington can do the same thing for *one hundred and eighty dollars*. The farmer of Goshen can go to New York and return, or his customers, the provision dealers, can come to him, *weekly*, for *fifty-eight dollars and a half* a year; while the farmer of Burlington must pay for the same facility of access to market the enormous sum of *two hundred and sixty dollars*.

"I would now ask the people of Burlington, and Camden, and Gloucester, and Salem, to reflect most

seriously on this matter. Here is the great market of the Union, New York and all the States east of it, the very market toward which all their products would naturally tend, barred out by a demand for passage money that forbids all intercourse. The farmer of Goshen can see his customers weekly, or monthly, at small cost, and make his own arrangements. He goes to New York, and he has his choice among hundreds of dealers, and he obtains the highest price. If he think proper to stay at home, every week brings dealers who are anxious to trade with him. The farmer of Burlington cannot go to New York, and few can come to him. The consequence is, that he trades with great monopolists, for none but a few great traders can afford to come to him. He sells his produce for half of what he would obtain it he could travel as freely as the man of Goshen. *He loses five or ten dollars per acre*, from the absence of all competition in the market, and he *saves one cent per acre* by the transit duties.

"Let us now look to the other end of the State.

"The *great* market for manufactures of all kinds is south and west, for there the people are largely engaged in producing food, and little in manufacturing, and it is to that market that a large part of the products of Newark would go were access free. The people of Newark are the customers of the farmers of Essex and Morris, and every thing that tends to limit the demand for their productions, tends to lessen the value of the farms of those and other counties in that vicinity.

"Newark is distant from Philadelphia eighty miles, of which sixty are by railroad, and twenty by steamboat. Were the manufacturer of that place at the same distance on the Erie road, he could go and return four times a year for *eleven* dollars—once a month for *twenty-five* dollars—twice a month for *forty-four* dollars—three times a month for *fifty* dollars,—and once a week for *seventy-two* dollars: whereas, if he desire now to do the same, he must pay as follows:—

Four times a year.....	$28	Difference....	$17
Once a month.....	84	"	59
Twice a month.....	168	"	124
Three times a month.....	252	"	202
Once a week.....	364	"	292

"Now I would beg the farmer of Essex, or Morris, or Passaic, or Somerset, to weigh well the effect of such a course of proceeding on the part of the people in whom he has vested, and is still vesting, the whole control of the communications of the State. One great market for the produce of those counties is Newark, and the more rapidly that city shall grow in numbers and wealth, the more rapidly will the value of his land, and the demand for its products increase. The great market for the products of that place is at the south and west, and the more directly the consumer can be supplied, the greater will be the demand: and every measure that tends to throw any difficulty in the way of intercourse between the producer in Newark and the consumer of his products, tends to retard the increase of the city, to retard the growth of its wealth, and to retard the increase of value in the lands around it."

It will not not require *much* argument to convince the farmers and mechanics of New Jersey of the great *benefits* derived by them, from the "transit duty," and other income, paid into the State treasury annually, when they look at it in this comparative manner—then why not let this pamphlet be distributed widely among the people in New Jersey? It can be had, we understand, at *cost* of paper and printing, and being stereotyped, any number may be obtained, and when wanted, at a very low rate.

He says, "the amount of tax that you impose upon yourselves, and from which you can relieve yourselves at any moment, is absolutely incredible. What I have now given is but the first and smallest chapter of it, and yet the loss resulting from this restraint upon your movements may be set down at millions: and all this is done that the State may take from the pocket of the unhappy traveller over her soil, *her dime*. She pays millions that she may save thousands."

The writer thus closes his fifth letter. He says:

"You are in a trap. It was set for others, but you yourselves have fallen into it. To extricate yourselves, it is necessary that you should unite your efforts; and until you shall do so, the trap shall remain closed. There is one way, and one way alone, in which you can be extricated, and the preliminary to that is a determination to act honestly, and abandon the whole system of transit duties by which you yourselves are the severest sufferers. Let a general law be passed for the making of turnpike and railroads, and capital will then be seen seeking investment in every part of the State, and then towns and cities will grow, and produce will be in demand, and farms will increase in value, and farmers will grow rich, and the man of New Jersey will be able to look his neighbors in the face, feeling that he has ceased to support his government by money filched from their pockets.

"Had this monopoly never existed, the population would now be double what it is, and the land would be five times more valuable. Much time has already been lost, and there should be now a universal determination to endeavor by wiser action in the future to retrieve the losses of the past. One long pull—one strong pull—and one pull all together—and the monster will be overthrown."

We copy nearly all of his sixth letter. Every word of it is to the point—and the seventh will be found equally interesting.

He says, "in my last I showed what were the differences between the charges of the Erie railroad and the monopoly roads, on *men* that wished to go to market with their produce. I will now show the differences in the transport of the *commodities* that those men would desire to send, or take to market. In the outset, I wish particularly to urge upon the attention of the farmer, that his natural market is to be found at the north and east. Jersey was meant for the orchard and kitchen-garden of New York, Connecticut, Rhode Island, and Massachusetts. There, consumers abound, and producers are few. There, the demand for their products would be immense, *if they could but get there*. Philadelphia has at the south and west, Chester county, and Lancaster county, and Delaware county, and Delaware, and Maryland, all of them constantly engaged in pouring their products into her market. Those counties and States are distant from New York and Massachusetts, while this State is near to them, and could command their markets free from the competition of the farmers of the lands farther south, were trade and travel free. Let the farmer look to what part of the country he may, he will see food travelling from the south and west towards the north and east, except in this State, and here he will see it *travelling up hill*—going south and west, *because it cannot get to the north and east*. Why it cannot, I propose now to show.

"The distance from New York to Burlington is nearly the same as from that city to Goshen. Roads are made in this State at less cost than in any other of the Union, and the cost of a new one from Camden to Amboy would be far less than has been that of the one to Goshen. This State has the vast advantage of being the chief highway of the Union, along which are even now transported great numbers of passengers, and large quantities of merchandise, and the amount would be ten-fold increased were this monopoly abolished. Every man, and every ton of goods, transported *across* the State, pays its contribution to the improvements of the roads *used by the people of the State*, tending thereby to increase the facilities for getting to market with their products. The Erie railroad has none of these advantages. It is no thoroughfare. It has to be supported by the local trade alone, and therefore the charges should be a third less from Burlington to New York than those from Goshen to that place. I will, however, assume that the tolls paid by the people of Goshen are the true one: those necessary for the maintenance of road, engines, and cars, and for payment of interest: and then show how much is the transit duty paid by the farmer of Burlington to the great monopolists. The former will then be enabled to see that for the *cents* paid to the State by his fellow citizens of the other States, *he himself pays dollars*, and he may then feel disposed to unite with his neighbors in the effort to rid himself and them of this iniquitous system.

"The farmer of Goshen can send his peas and beans, his cabbages and corn, his cucumbers and tomatoes, to market, on payment of twelve cents per hundred pounds, being less than *five cents* for forty pounds, which is, as I understand, the fair average weight of the baskets used in this State.

"The farmer of Burlington can send the same articles to the same market for *twenty cents* per basket.

"A man who cultivates forty acres can raise for market 5,000 baskets, on which the freight from Burlington would be.....$1,000
On the same quantity, the farmer of Goshen travelling the same distance precisely pays. 240

Balance, being *the transit duty* charged by the great monopoly..... 760

"Here is a difference of nearly twenty dollars an acre, due to the fact that the railroad kings have a monopoly of the business *of* the State, as well as of that *through* the State. Were competition permitted, they could charge no transit duty, and then the produce of the farmer would go to market from Burlington *even more cheaply* than now does the produce of the farms of Goshen.

"Let us now look to the effect of this. Everything ripens in Delaware and Maryland earlier than in this State, and the Jerseyman can derive no advantage from the high prices paid in Philadelphia for early vegetables and fruits. He is, however, better situated than the man of Maryland and Delaware for supplying New York or Massachusetts, if either he or his produce could get there. He does go to New York for a few days of the highest prices, but even during those days the company pockets nearly all the profits. Those days over, he is obliged, because of their enormous charges, to send his products to the market of Philadelphia, already overstocked with those of Delaware and Maryland, but he soon finds that they will not pay carriage there. Thus blocked up on both sides, he is compelled, in full view of the two greatest markets of the Union, to permit hundreds, and perhaps thousands, of baskets of vegetables, to rot in the fields at the very time when they would command fair prices in the markets of New York and Boston, and pay him well if he could get them there at reasonable terms.

"It is scarcely possible to estimate the demand for Jersey products that would exist at the north, if they could get there at the same rate of charge as that on the Erie road, *which is higher than would be the rate in this State, were the monopoly abolished*. Competition would compel the various roads to exert themselves to make business. Trains would cease to run at those hours only which suit the monopolists themselves, as is now the case. A morning line would carry tens of thousands of baskets to New York in season for the evening boats for Albany, Stonington, and Providence, and the vegetables gathered on Monday would be in Utica, or Boston, or Portsmouth, in season for dinner on Tuesday. Those same vegetables now rot on the ground because they cannot get even to New York. The *transit duty* levied by the monopolists is fifteen cents per basket, and this added to the five cents which is the honest charge for transportation, is more than they will bear, and the trade is thus almost annihilated.

"Let the farmer now estimate how much he saves by levying a transit duty on the people and merchandise that pass through the State. Let him then estimate, as moderately as he will, the transit duty he pays, and see how much it exceeds ten dollars per acre. Pay it he must in some form or other. Sometimes his products go to New York, and he pays it in tolls. At others he sends them to Philadelphia when they should go to New York, and he obtains 20 cents when he might have 35 or 40. At others, they rot on the ground when he might have 20 or 25 cents for them in New York, to which place he cannot send them because the freight and transit duty would eat them up. In one way or another he loses the extra charge on every bushel that he raises for market.

"This, however, is not all his loss. If roads were numerous and transportation cheap, he could have manure, and marl, and lime, brought to him at half its present cost, and his land would yield him more while costing less for cultivation. He would obtain, and with the same labor, 6,000 baskets where now he has but 5,000, and this additional quantity would cost him nothing. Transported cheaply to the north, that thousand baskets would yield him per-

haps $750, to be added to the saving in the difference of tolls upon the rest. He would grow rich, and he could improve his farm. Each year would see an increase of his products, and an extension of his market for them, whereas he now but lives along, and each successive year leaves him where it found him, poor, while railroad kings grow rich at his expense. At length he is seen abandoning his farm and flying to the west, while they remain at home and build palaces with the proceeds of the transit duty that eats him up.

"Throughout the whole range of agricultural products, we find enormous differences. The farmer of Goshen can send his pork to market on payment of 19 cents per hundred pounds. The farmer of Burlington pays 35 cents. The difference is the company's charge for *transit duty*. The farmer of Goshen can send his poultry to market for 21 cents per 100 pounds. The farmer of Burlington pays 40 cents, of which *the transit duty* is 19 cents. The farmer of Goshen can send his calves to market for 25 cents. The farmer of Burlington is, in this case, so entirely deprived of the New York market that I cannot learn that any price is fixed, but it could scarcely be less than a dollar. The transit duty here would be 75 cents. Every man that sends calves to Philadelphia obtains, as I believe, at least a dollar less than he could have for them in New York, and the price now paid for sending them to the former is precisely the same that would be paid for getting them to the latter, were competition rendered possible by the opening of the trap in which you, the people of the State, have caught yourselves.

"Let the farmer of Burlington now look to the fact that *the great market* for food is at the north, and that prices are always higher there than at the south. Let him see that that is his natural market, —the one to which all his products would go, if they could go on any reasonable terms. Let him then satisfy himself why it is that he carries all of them to the south, there to be sold in a market already burdened with the products of Pennsylvania, Delaware, and Maryland. Let him calculate the amount of loss that is inflicted upon him by the monopoly, and see how much over ten dollars an acre would be required to cover it. Let him then calculate how much it costs him and his fellow-citizens to collect *their dime* from the unfortunate traveller who pays double, treble, or quadruple price for the privilege of passing over his *free* soil, and satisfy himself if it does not count by millions. Let him then look round and see if he and they cannot discover some mode of opening the trap door.

"It is scarcely possible to conceive of a country being more beautifully situated than is this State. A great city, immediately south, is ready to absorb the products that might compete with those of her soil, and great towns and cities at the north requiring immense supplies of all those commodities that she is fitted to produce. The great highway of the Union is across her territory, and the whole nation stands ready to contribute largely in tolls for the use of her roads, thus enabling her to have *the best and cheapest transportation in the world*. She rejects these advantages, and forbids the transport of both passengers and merchandise across her soil, by granting a monopoly for the use of which she obtains about one cent per acre in the form of transit duties, and then she is taxed so heavily for the privilege of passing over her own roads that she cannot use them. Her products are thus forced into the inferior market of Philadelphia, when they might go to the superior markets of New York and Boston, and she continues poor. Her fields are uncultivated when they should constitute one great garden, and her lands are, for their situation, the lowest priced in the Union, when they should, and would, be among the highest of all.

"Let us now suppose that New York, with a view to protect her farmers and gardeners against the competition of the people of this State, were to establish a custom-house at which were levied tolls according to the following schedule, to wit:

On every 100 baskets of peas, beans, tomatoes, corn, cabbages, and other garden vegetables	$15 00
On every 100 baskets of fruit of every description	15 00
On every 1,000 pounds of pork	1 60
On every 1,000 pounds of poultry	1 90
On every 100 calves	75 00

And so on throughout the list.

"To this let there be added the following tax on men:—

On every Jerseyman that comes from a distance of 70 miles to New York four times a year	$11 00
On every one that comes once a month	39 75
On every one that comes twice a month	85 00
On every one that comes three times a month	131 40
On every one that comes once a week	201 50

"Were such a tariff established, would not the Union ring with complaints of Jerseymen? Would they not say, 'We are deprived of the great market of the Union: of our natural market: and are forced to see hundreds of thousands of dollars' worth of property rot on the gronnd because of the existence of this tariff, for the market of Philadelphia is choked with the products of Chester county, and Delaware county, and Maryland, and Delaware, and cannot absorb those of our fields and gardens. Our farms will become valueless, and everybody will fly the State. Our children will be compelled to leave us and settle in the west, whereas if we could have free trade with the great markets of the north and east, they would remain at home, and our large farms would become divided into small ones, and they would be better cultivated, and we should obtain from every acre double what we now obtain, and at less cost of labor and manure. 'We shall all be ruined.' Would they not hold township meetings to protest against this iniquity? Would not township call upon township to unite in the holding of county meetings, and would not county call upon county to unite in holding a great State convention to deliberate upon the mode to be adopted for relieving themselves from this great oppression? Would not congress be applied to? And would that body not be called upon to do what was necessary to put the people of New Jersey upon an equal footing in the markets of New York and Boston, with those of Duchess and Orange counties?

"All these things would you do, if the act proceeded from New York, and required aid from the Union, but yet you submit to *this very tariff* from a company that holds its existence under your own law: *a company whose action you can correct at your pleasure*. You have granted to that company the power to make a trap for your neighbors, without seeing that the trap enclosed yourselves. The company opens the trap-door for each of yourselves on payment of two hundred dollars a head for such of you as desire to go to market weekly. It opens it for your products on payment of fifteen dollars for every hundred baskets of vegetables, and seventy-five dollars for every hundred calves. You and your lands, and your vegetables, and your sheep, and oxen, and calves, and wheat, and rye, and potatoes, are all in the trap, and there they will stay until you yourselves shall learn that the man who *receives one cent* per acre as transit duty upon his neighbors and their products, and *pays ten dollars* per acre upon himself and his products, loses money by the operation. Whenever you shall come to understand this, you will hold township meetings, and county meetings, and State conventions, for the purpose of opening the trap-door, and then will the days of this corrupt and tyrannical corporation be numbered. Its monopoly privilege is *unconstitutional and invalid*, and it rests with yourselves to determine how soon you will make a half dozen doors to the trap, and let yourselves out."

New York and Erie Railroad.

The following address of the president and directors of the New York and Erie railroad presents, to the stockholders, the present condition of that work, together with a glance at the difficulties encountered by the present managers, in bringing it into its present favorable, and encouraging condition. The road will now be soon completed to Binghampton—and in sixty days thereafter to Owego—and in six months more to Elmira: when it will be nearly three-fourths done.

The arrangement made with able contractors to build the road from Binghampton to Elmira—about sixty miles—is ample evidence of the opinion of those who thoroughly understand the business, that it will be a good investment; and the people along the line deeply feel the importance of its early completion to their interest. But to *no place, or people*, is it of as much importance as to New York, and the business men of that mighty city; as by it, and by it alone, can the western merchants get their goods to the lake, and to Ohio, as early as by the way of Philadelphia, and her Central railroad.

The citizens of New York are not yet aware of their obligations to those who now have the management of this road—nor *will* they be until it is completed—*nor, indeed, even then*—and if they *were*, they would be cautious how they admitted the fact!

Office New York and Erie Railroad Co.,
No. 45 Wall street, New York.

TO THE STOCKHOLDERS:

Believing it to be the duty of the board of directors to keep the stockholders apprised, from time, to time, of the condition and prospects of the company, they have considered it right and proper, if not an imperative duty, at the present time, to submit the following statement of facts for the information of the stockholders and friends of the work.

It is very well known that about two and a half years have elapsed since a succesful effort was made to obtain the subscriptions necessary to *rescusitate* this company, the condition of which at the time was such as almost to discourage the attempt: several efforts having been previously made to this end, without success. And it may not be improper here to state that the difficulties and embarrassments which have been met and overcome in placing the affairs of the company where they now are, were not anticipated in the outset.

It is also well known that nearly one and a half years were lost to the company, after the passage of the act of 14th May, 1845, in consequence of the opposition which was encountered, in obtaining the best location that could be found for this road to the lakes. So soon as that deeply important question was settled the board commenced a vigorous prosecution of the work, and have urged it on as rapidly as a proper regard to economy and prudence would permit. It may be proper here to state that at the time the subscriptions were obtained, it was supposed from the report of a preceding board of directors, and also from the data then in possession of the new board, that the $3 000,000 subscriptions, together with the proceeds of a like amount of bonds, (with $1,000,000 to purchase machinery,) would be sufficient to complete the road to lake Erie.

But as it is currently reported that the company have not sufficient means to complete their road to lake Erie, it may be proper to state precisely what their means are at the present time, to correct the many erroneous statements in circulation, and also briefly to explain some of the causes of the increased cost of the road.

There is due at this date, on stock subscriptions, over	$450,000
State mortgage bonds, in hands of the comptroller, not yet sold	2,250,000
Amount deposited with the comptroller to pay interest on $750,000 of bonds assigned, to date	162,433
	$2,862,433

Besides which they have now on hand available assets to pay off all existing liabilities for work done to 1st May, and for temporary loans, etc.

In answer to a call of the board upon the chief engineer for a careful estimate of the cost of completing the road to Binghamton, a report was submitted, made with great care, with a liberal allowance for contingencies, and believed to be perfectly reliable. It was then found that taking the bonds at par, together with the amount due on stock subscriptions, there would be, after completing the road to Binghamton, a surplus of about $1,000,000, including the amount required by law to be deposited with the comptroller to provide the interest on the bonds till 14th May, 1851.

The inquiry will doubtless be made, as it often has been of the officers of the company, why so large an amount of the assets of the company will have been expended by the time the road is completed to Binghamton: and in what manner it has been expended? To which it may be answered.

1st. A considerable amount has been expended in settlement of the old debts of the company, which

were not, and could not, be accurately known when the subscriptions were obtained.

2d. The condition of the road in operation, when the present board assumed the control, was such as *imperatively required a large expenditure* to make it safe and profitable to the stockholders.

3d. The motive power, cars and machinery on the road, and in the shops at the time, were entirely insufficient, besides being in a very bad condition; consequently, a *large amount* was absolutely required to provide for this deficiency.

4th. The character of the road has been very greatly improved, by altering the grades and changing the line in many places, at a considerable cost to the company, the necessity and importance of which were too great to allow of any hesitancy on the part of the board in deciding to do so, at almost any sacrifice, and which will make it, when completed, worth millions of dollars more to the stockholders and the public, than if continued on the old line, and at the old grade. In fact, the value of these improvements can hardly be over estimated, when the future working of the road is taken into account.—And it may be added with the utmost confidence that the improvements in the line and grade, which have been secured only by the most determined and persevering efforts of the board, are worth more to the stockholders and the public than the State loan of $3,000,000. Another fact may be stated as a consequence of such changes, that the road when completed will furnish about 300 miles of level, or nearly level grades, or not exceeding five feet to the mile, in favor of the trade coming towards our city.

5th. When the subscriptions were obtained, and for about one year and a half thereafter, the price of provisions and labor were very low, but about the time, or very soon after the question of location was settled, and the company were enabled to commence work, there was an advance of more than 50 per ct. in both these items, the causes and the effects of which are well known. The cost of the work was consequently very greatly increased. Under all these embarrassing circumstances, the board have used all the economy and prudence that was possible, in their expenditures, consistent with a proper regard to the interests of the company, and a vigorous prosecution of the work.

The board are happy in being able to state that all the legislation that is deemed necessary has been obtained, both from our own State and Pennsylvania, to enable the company to avail themselves of all the benefits of their charter. The value and importance of this legislation when understood, will be admitted to be very great in the future prosecution of the work.

About one and a half millions of dollars have been expended on that part of the road between Port Jervis and Binghampton, a distance of about 127 miles, (by far the most difficult and expensive part of the road to the lake,) more than half of which is nearly graded, and the company will commence laying the superstructure within a few weeks. The iron rails are being rapidly delivered on the line of the road, and the board intend, and believe they will be enabled to open the road to Binghamton during the present year, unless some unforescen difficulties occur to prevent.

The board have just closed a very advantageous contract with a company of gentlemen of great wealth and respectability from the interior of the State, to grade the road from Binghamton to Elmira, a distance of about 60 miles, to lay the superstructure and to furnish all the materials, except the iron rails; that portion of the road between Binghamton and Owego to be finished within 60 days after the road is extended to Binghamton; and from Owego to Elmira within six months thereafter. And as a proof of their confidence in the productiveness of the road, they have agreed to receive their pay, principal and interest, solely from the net earnings of the road, the amount of which arising from or growing out of such extension, will provide most amply for the object, without recourse to any of the present available means of the company. Payment of principal to be made out of the net earnings, in instalments of 20 per cent. per annum in six, seven, eight, nine and ten years. This arrangement will secure the completion of the road to Elmira within 15 or 16 months from the present time, with the probability of a similar arrangement to extend it to Corning, 16 miles further west, within the same period. It may not be unimportant here to state, that from the latter place to Port Jervis, a distance of over 200 miles, there will be no grade opposed to the descending trade of over five feet to the mile, except at one place, where for seven miles the grade will be sixty feet to the mile, leaving 193 miles practically level.

When the road shall have reached either of these points, it may safely be considered, as to cost and labor, three-fourths finished.

It is probably well known that a charter has been obtained for a short road from the head of Seneca lake, to connect with the New York and Erie railroad, at Elmira, a distance of some 17 or 18 miles. The route is now being located, and the capital stock is nearly subscribed, to complete this connection, by the time the New York and Erie railroad shall be extended to Elmira. When this point is reached, such results must be realised as can hardly fail to satisfy the highest expectations of the friends of this great public work.

The net earnings of the road now in use, terminating in a sparsely populated country, and with comparatively very limited productions, will probably exceed $150,000 the present year. Its gross earnings will doubtless exceed $300,000. Yet with these data, (imperfect as they are) together with a careful examination of the subject, and taking the most reliable sources of information, the lowest estimates that can be formed of the net earnings of the road when it reaches Elmira, after paying interest on the state bonds, and all the issues of stock, and all other indebtedness, can hardly fail of leaving a net surplus of six or seven hundred thousand dollars, to be applied to the extension of the road to the lake. This estimate is deemed much too low, by gentlemen of respectability living in the central part of the State, and intimately acquainted with the resources of the country west of Binghamton. It must not be forgotten that from this point westward, a large amount of money has been expended, and a great portion of the line is partially graded.

From two to three millions of dollars will be required to complete the road to lake Erie. And within six months after the road shall have been extended to Elmira, we hazard little in saying that such results will follow one half year's working the road, as will make the stock of the company a desirable investment, and sought after, at or above par.

The company, at that time, will, by their charter, have a balance of stock not issued, and the privilege of issuing from four to five millions of dollars, which will secure the completion of the road to the lake, and make ample provision for machinery cars, etc., for running the road.

This road, when, completed, will cost the stockholders less per mile, than any other road in the country, and not exceeding half the cost per mile of the Western railload from Albany to Boston. Massachusetts has in operation within her limits, 728 miles of railroads, costing about $35,000,000, or about $50,000 per mile. With this large cost per mile, and many of them running nearly parallel with and not far distant from each other, yet they pay handsome dividends to their stockholders. Reasoning from such facts, it does not appear very extravagant to expect large dividends from this road, the longest in this country, and by its natural position, commanding the trade and business of a country equal in extent of area to the whole of the New England States, and almost without the danger of a rival or parallel line. This view of the subject seems sufficiently encouraging, without looking to the trade of the great western lakes, and the vast but partially developed country bordering on them. We doubt not that any estimate which would now be hazarded as to the business of this road, in a few years after its extension to the lakes, will fall as much below what will be realized, as that formed of the Erie canal in its early history, has fallen below the amount realized on that work.

It appears very difficult, with a map of our country spread out before us, to trace out a line for a railroad of 450 miles in length, combining a greater amount of advantages, present and prospective, than this road.

It would appear, from the low price at which some of the stock of this company has been recently sold, that the stock bonus of $3,000,000 had been entirely forgotten or overlooked. A bonus which practically adds 30 per cent. to the intrinsic value of the stock. It may, however, be said that some of the best railroad stocks in our country were sold at a very low price while the roads were being constructed. The stock of the Boston and Maine road, during the time of its construction, was sold at 60 per cent., (it now sells, however, at about 120). The Western road, from Albany to Boston, was sold as low as 45 per cent.; it now sells above par. But the board consider it their duty to state to the stockholders that, owing to the removal of the many difficulties and embarrassments with which the road has heretofore been surrounded, and to very favorable position in which it is now placed, the stock is, in their opinion, really and intrinsically worth, this day, 20 per cent. more than it was two years since; and nothing has occurred that should impair or diminish, but rather to increase and strengthen public confidence. These assertions are made in consequence of the many erroneous statements, if not wilful or interested misrepresentations, of parties, which have been made, doubtless, to impair confidence, and reduce the value of the stock, if for no other object.

To the merchants, mechanics and business men of our city, to whose public spirit and enlightened enterprise the public are mainly indebted for the subscription of $3,000,000, which formed the basis of the success, and the favorable turning point in the history of this company; to those stockholders, the board consider it their duty to say, that at no period in the company's history, since their connection with it, has it been placed in a position more entitled to their confidence; and with the sale of their bonds, which form as perfect security as can be found in the whole country, beyond the reach of doubt or contingency, the directors cannot see any difficulty in the way of carrying out this great public work to a successful completion.

By order of the board of directors.

BENJAMIN LODER, President.

Western Railroads.

A writer in the American Mining Journal, over the signature S., dated *Indianapolis, Ia.*, April 14th, says:

My attention has been directed to the articles of "J. S. W.," of Chicago, published in your paper, and while I concur with the writer in the general object he has in view, of extending the commerce and business of the cities of New York and Boston to the centre of the great valley of the Mississippi, I am compelled to differ from him as to the particular line of extension and connection, to which the attention of the business public of these cities and the lines of communication running to them shall be directed at this time, and their aid given to insure the greatest amount of benefit to all concerned.

As the writer of these articles resides at Chicago, on the lake, and I reside at Indianapolis, the seat of government of the State of Indiana, it is very natural that we shall give the preference to the respective roads, that would make the places of our residence prominent points. My object is not to disparage any route making Chicago a point, but to show that another route has the advantage over that and all other routes, and for the correctness of my opinion, I refer the reader to the map of the country, and the table of distances appended to this article.

The writer of the article referred to makes Sandusky city on the lake, the north-eastern point of the contemplated extensions, and Cairo, at the mouth of the Ohio, the south-western point of termination. As to the first point, I concur with him, as Sandusky will be a point to which the Buffalo railroad will soon be constructed, making the lines of communication complete by railroad from Boston and New York to Sandusky. He fixes Cairo at his other point. I had supposed

St. Louis to be the most eligible point to strike the Mississippi. But for the purpose of this article, I am quite indifferent at which point the road should terminate, as the comparative result will be about the same.

I will not pretend that the friends of the route to which I am about to draw your attention can, "by the co-operation of public men and capitalists of the north," put the Chicago work at rest for a very considerable time, as the writer assumes in relation to the Indiana route. Nor will I harbor the idea for a moment that the legislature of Illinois will refuse to any part of the State the right of way for a railroad to be constructed by private capital. Neither of these ideas reflect much credit upon the writer of these articles, for his enlarged views of the matter under consideration. But I do maintain that the route from Sandusky to St. Louis, or Cairo, running upon a direct line to Belfontaine, on the Ohio railroad, and from that point directly to Indianapolis, the seat of government of Indiana, from thence to Terre Haute, on the Wabash; from thence to Vandalia, and from thence to St. Louis, or Cairo, on the Mississippi, is the route to which the cities of Boston and New York should now be directed, and to which their aid should now be given, in preference to any other route, and I will call the eye of the reader to the map of that route, and to the table of distances, I am aware that the mere declaration of a writer will be worth but little to the practical man. I therefore specify in what the superiority of the route referred to consists, and in what I rest its claims to the support of these cities.

1st. It is the shortest, cheapest of construction, and most direct route between these two points, as will be seen by reference to the maps, and to the table appended.

2d. Over one hundred miles from Sandusky to Belfontaine, on the direct route are completed, and under full business operations.

3d. It runs through one of the most productive agricultural sections of country in the valley of the Mississippi, and would open to the eastern ports of Boston and New York an immense business, that now goes south to New Orleans.

4th. It would give to the travelling public between the north-eastern Atlantic cities, and the centre of this great valley, a direct, cheap, and rapid communication.

5th. The cities of New York and Boston, *now* have the trade of the lakes, and the contiguous country, and it cannot be taken from them, but the trade of the country through which this road passes, they never have had, or never can have, without the construction of this or some other work of the kind, running through this great valley in a central direction.

As I stated, there are over one hundred miles of this route completed to Belfontaine from Sandusky, and charters, liberal in their character, have been granted by Ohio and Indiana, to construct the work from Belfontaine to Terra Haute, on the Wabash river; passing on the direct line through Sydney, Winchester, Muncie, Andersontown, Pendleton, Indianapolis, and Green Castle, and the books of some of those companies are now opened, and others will soon be opened, for subscriptions. The book for subscriptions to the *Indianapolis and Belfontaine railroad* will be opened on the first Monday in May next, and be kept open thirty days, at Madison, Indianapolis, and other places on the line, and I would especially call the attention of the capitalists of the cities of New York and Boston to this road, and request them to aid us by taking stock.

This link in the great chain from Sandusky to St. Louis or Cairo, commences at Indianapolis, and runs to the Indiana State line on the direct route to Sandusky, as above laid down, about 80 miles. Its estimated cost is about $600,000 only, as it is a remarkably cheap route. It connects at Indianapolis with the Madison and Indianapolis railroad, now paying a dividend of 14 per cent. per annum, and the stock of which is 40 per cent. above par. It runs through one of the most productive sections of Indiana, and when constructed it must do a heavy business, while it will insure the completion of the line from Sandusky to central Indiana, and open our heavy trade to the cities of New York and Boston. We need eastern aid, and we present this work to eastern capitalists as worthy of their attention. Subscription to its stock can be taken by writing to O. H. Smith, at Indianapolis, who will attend to the same. Shares $25 each, payable—5 per cent. on subscribing, and one-fifth annually thereafter, as required by the charter.

TABLE OF DISTANCES.

No. 1.—Indiana Route.	Miles.
Cairo to Vandalia	132
" Terre Haute	95
" Indianapolis	75
" Ohio line	78
" Beltontaine	55
" Sandusky	100
From Cairo to Sandusky	535
No. 2.—Indiana Route.	
St. Louis to Vandalia	65
" Terre Haute	95
" Indianapolis	75
" Ohio line	78
" Belfontaine	55
" Sandusky	100
St. Louis to Sandusky	468
No. 3.—Chicago Route.	
Cairo to Springfield	190
" Chicago	173
" Michigan city	50
" Toledo	175
" Sandusky	47
From Cairo to Sandusky	635
No. 4.—Chicago Route.	
St. Louis to Springfield	90
" Chicago	190
" Michigan city	50
" Toledo	175
" Sandusky	47
St. Louis to Sandusky	562
No. 5.—Indiana Route.	
Cairo to Sandusky	535
" Buffalo	163
" Albany	363
" Boston	158
Cairo to Boston	1219
Albany to New York	145
St. Louis to Boston	1152
Cairo to New York	1206
St. Louis to New York	1139

Chicago Route.

Cairo to Sandusky	635
St. Louis to Sandusky	562
Cairo to Boston	1319
Cairo to New York	1306
St. Louis to Boston	1246
St. Louis to New York	1233

When this line is finished, cars can run from Boston or New York to Cairo in 60 hours, and from New York or Boston to St. Louis in 57 hours.

Indianapolis, Inda., 14th April. S.

It is no difficult matter to build railroads on paper, as has been discovered by many of our people—but *exceedingly* difficult to build them in a *proper* manner, any where except in populous and wealthy communities; and especially so in the comparatively new States of the west—yet those States will be, in a few years, chequered with railroads. The only difficulty to be apprehended is that the anxiety and apparent necessities of the people will urge them on too rapidly, as in 1836, 7, and 8, and thus retard their progress.

Let the energies of the people be first brought to bear upon one or two main lines—complete those, and then other necessary lines may be easily constructed.

We have not read the articles of "J. S. W.," alluded to by S., but will look at them, and compare his views with those of S.

Canadian Railways.

Report of the Railway Committee of the Canadian Parliament.

The following report of the railway committee of the Canadian parliament, of which Sir Allan MacNab was chairman, made on the 22d of March last, shows that the leading men of Canada are deeply impressed with the importance of railroads to the development of their resources, and the prosperity of the people. The plan here sketched is certainly one that would add immensely to the business facilities of the British provinces—but it is, we apprehend, on *too broad* a scale for present accomplishment, we should therefore recommend the vigorous prosecution of the *St. Lawrence* and *Atlantic*, and the *Great Western* roads, to an early completion; and cordially approve of the suggestion of the committee, that the government guarantee the interest on the bonds of the two companies to the amount of at least a million—to be divided between the two companies in proportion to their length, and thus secure, by their early completion, over 400 miles of road. This done, then let the energies of the people be brought to bear upon the line between Montreal, Kingston, Toronto, and Hamilton, a distance of 385 miles—a purely Canadian work—to be constructed in sections of fifty or sixty miles each, until the whole line of road, from *Windsor* and *Port Sarnia*, on Detroit river and Lake Huron, to *Montreal* and to *Portland*, in Maine, 943 miles, shall be in use.

By opening an easy communication between Montreal and the Atlantic, where travel and transportation will be both rapid and cheap, new life and energy will be given to business in that region; and the Great Western road, through the most fertile portion of the Canadas, will ensure its rapid settlement, increased productiveness, and general prosperity, which will, in a few years, better enable the people to complete the road from Montreal to Hamilton, then to complete the two first portions now under construction.

The government has done much in aid of canals, and it is now called upon to aid in the introduction of railroads; and it *must do it* if it would not have the Canadas fall still more behind the age.

The letter of Mr. Lot Clark, referred to by the

committee, contains much of interest, and may be given hereafter.

The present aspect of things in Europe may, to some extent, affect the progress of these works for a time, but ultimately, we apprehend that they will be benefitted by the unsettled state of things there, as capital invested in them will be not only more *safe*, but also more *productive*.

The Portland Advertiser of April 19th, has the following remarks in relation to the political affairs and aspects of the Canadas:

"RAILWAY MATTERS IN CANADA.

"The new (or 3d) parliament of United Canada, assembled for the transaction of business, on the 25th of February last. Among the significant events which the past year has disclosed, the signal overthrow of the conservative ministry of Canada, is by no means an unimportant one. The active development of liberal opinions under their peculiar form of colonial government, is likely to act with efficiency and force upon the policy of Canada, and to give greater energy to all individual enterprises favorable to the public prosperity.

"The liberal party have a majority of 60 to 24 in a full vote in the assembly, and the resolution of a want of confidence in the old ministry was carried by vote of 54 to 20. The new ministry required time to mature their plans, and after a short session, parliament was prorogued to the 2d of May.

"Application was made on behalf of the St. Lawrence and Atlantic railroad company '*for public aid to complete the work.*' A similar application was subsequently made by the Great Western railway of Canada West.

"On the 14th of March, a standing committee on railway and telegraphic lines was appointed, consisting of Sir ALLEN MCNAB, of Hamilton, chairman, and Messrs. *Wilson*, of London, Canada West, *Bouthillier*, of St. Hyacinthe, *Taché*, of Rimouski, *Holmes*, of Montreal, Canada East; *Wettenhall*, of Halton, *Merrill*, of Lincoln, *McDonald*, of Kingston, Canada West; *Mongenais*, of Vaudreuiel, *Cauchon*, of Montmorenci, *Baubien*, of Chambly, and *Watts*, of Drummondville, Canada East.

"The distribution of this committee shows that every portion of the colony was represented upon it.

"This committee have presented a report on the subject of government aid to the two railways above referred to, which is just published by order of parliament, a copy of which has come to hand."

Report of the Standing Committee of the Canadian Parliament, on Railways and Telegraphs.

The standing committee on railways and telegraph lines have the honor to present their second report:

The committee have directed their anxious attention to the subject of railway extension through Canada, a subject whose importance cannot be overrated, and in favor of which the public voice has conclusively declared: That railways are of the greatest assistance in developing the resources of a country, both agricultural and commercial, has been too fully established in Great Britain and the United States, to require discussion. This province is naturally well adapted for the construction of railways, and would be benefitted by them in an equal, if not greater degree than any other country. With great facilities for foreign and internal commerce, during the summer season, by means of its magnificent chain of water communication, Canada labors under great disadvantage from the complete cessation of business, and exclusion from the markets of Europe, during its long winters.

These disadvantages can only be overcome by a well arranged and comprehensive system of railroads, which would allow of an active and uninterrupted trade, both foreign and domestic, being carried on for the whole year, and in that respect would put it upon a par with the neighboring States.

The three great lines of railway which at present press themselves on the public attention as being of primary importance, and connected with the general prosperity of the province, are:

1st. The line extending from Quebec westward along the north shores of the river St. Lawrence and Lake Ontario, to Toronto, from that city to Hamilton, and from thence along the Great Western railway to Windsor, opposite Detroit, in the State of Michigan.

2d. The railroad projected, and now in progress of construction, from the St. Law-Lawrence opposite Montreal, to the Province line, and there to be connected with another road also in progress, running to the city of Portland in the State of Maine, and on the seaboard.

3d. The railway connecting the cities of Halifax and Quebec, and passing through the Provinces of Nova Scotia and New Brunswick.

There are several other lines of railroad proposed, all of great utility to their respective localities, but the committee have not taken them into consideration, as they are generally of limited extent, and may be safely left to private enterprise.

The first line naturally divides itself into five sections.

1. Beginning at Quebec, the first section will terminate at Montreal, a distance of about 180 miles. No charter has yet been obtained for this portion of the line, nor any steps taken to obtain one. The St. Lawrence and Atlantic railroad company propose to run their road through the eastern townships for 70 miles, to Melbourne, on a course towards Quebec. It remains yet to be settled whether it would be preferable to extend this road to Quebec, or to construct a separate one on the north bank of the river. No surveys having been made of this section, the probable expense cannot be estimated.

2. The second section, from Montreal to Kingston, a distance of about 180 miles, is another necessary link in the great chain of railway communication.

A charter was obtained for it in 1845, but the company has not yet organized itself, nor have any surveys or estimates been made. A railroad has been finished from Montreal to Lachine under a separate charter. By their charter, this company are bound to transfer their railroad, on certain specified terms, to any other company, who will extend it onward towards Kingston, and shall *bona fide* expend the sum of £100,000 on such extension. This section, connecting as it does, the great chain of lakes with the chief commercial city of Canada, and with the Atlantic navigation, will undoubtedly command a large and lucrative trade. It will, probably, in a few years be intersected by a railway running from Bytown to Prescott, and connecting the Ottawa and St. Lawrence. The Ogdensburg railroad, with its terminus opposite Prescott, will also contribute to increase its trade.

3. The third section extends from Kingston, 165 miles along Lake Ontario, to Toronto. A charter has been obtained for this road, and a preliminary survey made, estimating the probable cost of the work at £865,000. The prospects and advantages of this road are stated at length in the prospectus of their company, and the report of their engineer published in 1846. It will be connected at Kingston with "The Rome, Waterdown, and Cape Vincent Railroad," in the State of New York, by means of steam ferries over the St. Lawrence, and a short railroad of seven miles across Wolfe Island. A complete railway communication will thus be established between Kingston and the Atlantic cities of Boston and New York.

Active exertions are now being made by the Port Hope and Peterborough railroad company to commence their undertaking, which will intersect the main road at Port Hope, and pour into it the large and increasing trade of Newcastle and Colborne districts.

4. A charter has also been granted for the fourth section, connecting Toronto with Hamilton. The length of this portion of the line is about 40 miles, but its construction has not been begun, nor have the company as yet made any preparations for that purpose.

5. The fifth and last section has been for some years before the public, as "The Great Western railway."

This great undertaking cannot be better described than by the following extracts from the able and elaborate report of Mr. C. B. Stuart, the chief engineer, of the 1st of September last:

"The stockholders of this company control the destiny, and may appropriate the profits of a line of railway, 228 miles long, under a liberal charter, with a right to exact toll without legal restriction, to make various important branches, running through a district of country which is unsurpassed in this country or Europe. Commencing in the west at the head of Lake Erie, where daily steamers connect it with all the shores of the great upper lakes, and the fertile lands of the north-western States, and a railway now nearly finished, completes the line through the heart of Michigan, touching in its route and by its tributaries at convenient ports on Lakes St. Clair, Huron, and Ontario, and terminating in the east on Niagara river, where two railways and a noble canal form its connection to New York and Boston; and Lake Ontario and the St. Lawrence form an independent channel to Montreal and Quebec. This work seems destined to absorb the traffic of a wider region than often falls to the share of any single enterprise."

Again Mr. Stuart says:—"It is a work running through the western peninsula of Canada, which depends for its support—

"1st. On the trade and travel of the St. Lawrence and Lake Ontario, brought from the east by numerous steamers, to the mouth of the Niagara river, and to the city of Hamilton, at the head of the lake.

"2d. On that of the State of New York, brought by the Erie canal to the foot of Lake Erie and Niagara river, near the Falls.

"3d. On that brought by existing railways from the cities of New York and Boston, and the other ports of the New England States, through the centre of New York to Buffalo and Niagara Falls, destined for Michigan and the north-western States.

"4th. On the traffic and travel brought by steamboats from Lakes Michigan, Superior, and Huron, to the western termini of your road.

"5th. On the trade and travel of the States of Michigan, Illinois, and the Mississippi Valley, brought to the same point by the Michigan Central railway, soon to be completed to Lake Michigan, opposite Chicago.

"These are the great contributors to the support of your work—the lines already in activity, which diverge from its extremities towards the east and west—quite independent of the wealth and resources of the immediate district traversed by the improvement itself, by far the most populous and fertile portions of Canada West, which this line *must control*, without rival, or the probability of future rivalry.

"Ample surveys which have extended over every route, offering any pretension to authorize its exploration, have led to the conclusion that there is no appropriate ground on which to place a competitor on either side of that which has been recommended for your adoption."

The main trunk line of the Great Western railway extends from Hamilton to Windsor, a distance of nearly 186 miles, and will cost, according to the engineer's estimate, the sum of £989,858.

A branch from the main line runs from Hamilton 42 miles, to the Niagara river, at the estimated expense of £248,767. Another branch extends to Port Sarnia, at the foot of Lake Huron. This branch is about 50 miles long, and will cost £166,410, making the total estimated expense of the Great Western railway and branches £1,404,930.

It appears from the petition of the company to the legislative assembly, presented to the house during the present session, and referred to the committee, that the capital stock of the company is £1,500,000, divided into 60,000 shares, at £25 each; of these shares, 20,725 are held in England, on 10,000 of which five per cent. has been paid in, and on the remaining 10,725, five shillings sterling per share have been paid; that the amount taken by the contractors will be about 8,847 shares, making, in the aggregate, 35,572 shares. It also appears by this memorial, that "the right of way for the most part has been acquired by the company; that spacious depot grounds have also been secured at Windsor, Chatham, Lobo, London, Ingersol, Woodstock, Paris, Dundas, Hamilton, Grimsby, St. Catharines, and Niagara river; that the portions of the line from Hamilton to Niagara, and from London to Windsor, have been placed under contract at rates under the estimate of the engineer; and that the contractors take in payment one-fourth of their contracts in the capital stock of the company at par; that a commencement has been made on both these sections; that the section in the city of Hamilton has also been contracted for at a price below the engineer's estimate, taking one-fourth in stock as part payment; which work has also been commenced; that a company is now formed who will take the residue of the line from Hamilton to London on similar terms, and at the estimate of the engineer. * * * * * thus placing the entire line under contract to responsible contractors, for a sum not exceeding the estimated expense."

The company have already expended about £15,000, and are vigorously prosecuting the work as fast as their limited means will allow.

The second great line is that known as "The St. Lawrence and Atlantic railroad." The whole distance from Montreal to Portland, the two termini of the railroad, is 280 miles, of which 130 lie in Canada, and the remaining 150 in the United States. Two incorporated companies, one American, "The St. Lawrence and Atlantic railroad," have undertaken to complete this line. Though quite unconnected as to stock, liabilities, and profits, and in every respect independent, these companies having a common object and similar interests, act in perfect unison with each other. The cost of construction of the joint line is estimated at £1,750,000, and that of the Canadian section at £825,000.

The advantages of this line are thus described by Mr. A. C. Morton, the intelligent engineer of the railway:—"With reference to your road as a great thoroughfare, it occupies a remarkable position, connecting the St. Lawrence and the Atlantic, at a point where the New England coast approches nearest to the western waters, and having a large and populous city at either terminus, with capacious harbors, and a rich intervening country, it cannot fail to be one of the most important and profitable roads yet commenced. From its peculiar position, it never can be subject to competition. It is the shortest and cheapest channel through which the travel and trade of the provinces can reach the sea-board, with a long line of natural and artificial commuication, connecting Montreal with the western waters and the far west, it cannot be doubted that the completion of this last link will change entirely the channel of trade, open new resources, and add vastly to the business of the public works of the province, and to the wealth and enterprise of the country through which it passes. To the city of Montreal it is of vital importance. Situated as she will be at the foot of this long line of communication on the one hand, and within ten hours' ride of one of the best harbors on the Atlantic coast; on the other, she must unavoidably receive large accessions to her trade and commerce, and a vast increase of wealth."

The capital stock of the company is £ , divided into shares of £ each. Of this stock, 4,083 shares have been subscribed in Canada, 750 shares more will be absorbed in the contracts for the portion of the road under construction, and 700 shares remain on the list subscribed in Great Britain. making a total of 5,493 shares, and forming a capital of £274,650. *Vide Annual Report*, 1847.

It appears from the last annual report of the directors, of the 19th of January, 1848, that the right of way for the first thirty miles has been adjusted with 304 of the land owners. The first division of the work, lying between the St. Lawrence and Richelieu rivers, a distance of 16 miles, is in progress, and expected to be finished in August next. From the Richelieu to St. Hyacinthe the grading is in a state of much forwardness, and the bridge over the Richelieu nearly completed. The total amount of expenditure by the company to 1st November last, was £82,511 13s. 6d.

The prosperity of that part of the province through which this road will pass, has hitherto been greatly retarded from the want of water communication with its chief market, Montreal, and the consequent great expense of land carriage over the ordinary country roads. The disadvantage will be overcome by the railroad, which will, at all seasons, give the inhabitants of the neighboring counties a speedy, safe, and cheap means of access to market. The route as surveyed passes through the counties of Chambly, part Vercheres, Bouville, St. Hyacinthe, Shefford, Sherbrook, and Stanstead, and in the vicinity of Richelieu and Drummond, all of which counties will be materially benefitted by the construction of the railway, and it may be stated with confidence that at least 140,000 inhabitants of the province will be directly benefitted by this undertaking, without any reference to its favorable bearing on the interests of the province at large. *Vide Statistical Statement submitted to Parliament in* 1844.

The third and last great line of railway is that connecting Halifax and Quebec, and passing through Nova Scotia and New Brunswick.

The committee are happy to learn, from the speech from the throne at the beginning of the session, that the engineers to whom was entrusted the survey of this important route, have discovered a good and practicable line of road.

The province may therefore expect that the imperial government will ere long take this great national undertaking into its most favorable consideration. The committee have no data upon which to form a satisfactory opinion, as to the probable cost or profits of the line.

The expense has been variously estimated from three and a half to five millions. To this province it will be of immediate benefit as securing an access to the ocean, and the means of communication with the mother country at all seasons of the year, without being liable to the inconveniences which arise from the passing through a foreign country,

and will especially ensure us the regular and uninterrupted passage of the mails to and from Europe, with as much expedition as by the route through the United States, and without the annoyance lately suffered from the postal differences between that country and Great Britain.

Our sister colonies will participate in these advantages, and the road will be in a greater degree beneficial to them as passing through the settled parts of their country, and giving them a large and lucrative *way* business. Convinced of this, Nova Scotia and New Brunswick have entered upon the project with great vigor and enthusiasm.

To the imperial interests this road is of paramount importance, as affording the only sure communication with Canada during the winter months, and as the means of employing and settling a large number of the surplus laboring population of the empire. The magnitude of this undertaking is such, that the united action of the three provinces, aided by the mother country, will be required in order to carry it through. And the committee can also say with respect to it, that they are well assured that Canada will meet the views of the other provinces in the most liberal spirit, and will heartily concur in such measures as may be jointly agreed upon.

With respect to the two first lines of rail way, which may be considered as exclusively Canadian, the committee fear that, from the cost of their construction, and the want of capital in the province, they cannot, within any definite period, be completed by private enterprise.

It may also be considered as certain that the large amount of capital required for the unfinished and projected railways in Europe, and the present depression in the money market in England, will prevent British capitalists from investing their moneys in such distant enterprises, on the credit of the works alone, however favorable may be the prospects of a profitable return.

Unless, therefore, some assistance is afforded by the provincial government, the committee are apprehensive that the completion of these works will be postponed to an indefinite period, and that the province must submit to see itself fall behind the rest of the world in the great march of improvement, and with all its natural advantages, to sink into a hopeless inferiority in comparison with the neighboring States.

The Great Western and the St. Lawrence and Atlantic railways are both applicants for aid from the province, and should the government think themselves justified in entertaining the proposition at all, the committee would respectfully recommend that such aid should, in the first place, be granted to these two railroads, as being now in actual progress. The remainder of the great line, from Quebec to Hamilton, might afterwards be assisted as circumstances would permit, and the committee are of opinion that the success of the two railways above mentioned, when finished, will be so decided as to induce capitalists, by degrees, to undertake the whole line.

Three modes by which the provincial government might assist these companies are suggested by the directors of the Great Western railroad. 1st. By a direct loan on the security of the road and property. 2d. By taking stock to a specified amount. And, 3d. By guaranteeing six per cent. interest to any capitalists taking the stock and completing the works.

The committee are fully impressed with the conviction that these railroads can only be completed by the hearty concurrence of the government, and that such concurrence must be regulated by a prudent regard to the state of the finances of the province, and the preservation of the public credit.

It is not, therefore, the desire of the committee, nor is it within their province, to do more than invite the serious attention of the legislature and government to these propositions, and to submit them for their most favorable consideration.

Whenever the government may feel themselves justified to take up the subject, with a view to grant the assistance prayed for, the committee are of opinion that the guaranteeing of the legal interest to capitalists will be found the least objectionable mode.

Increasing the debt of the province by a large loan may have a prejudicial effect on the public credit; and the objection to the province becoming a stockholder in these works, in connection with private capitalists, are also obvious. It would appear from the application of the two companies, that a million of money, in addition to their present funds, would enable them to finish their undertakings. And that, were the government to guarantee the interest on that amount, the stock so guaranteed could be readily disposed of at par.

It is confidently expected that these two railroads will, when completed, return an ample revenue, and that the province will never be called on to advance a farthing on their guarantee.

But looking at the subject in its worst point of view, even if the railroads or either of them did not for the first few years meet the whole interest on the amount guaranteed —the province would only be liable for the deficiency.

The committee are decidedly of opinion, that under no circumstances could such deficiency exceed three per cent. of the interest, and in such case the whole amount of the annual liability of the province would not be more than £30,000, a sum of no importance when compared with the great objects attained.

The committee, in conclusion, beg leave to call the attention of the legislature to the able and satisfactory letter of Mr. Lott Clark, of New York, of the 1st of March, 1848, to Sir Allan McNab, the president of the Great Western railroad company, hereunto annexed, showing to what extent and in what manner similar enterprises have been aided by the States of the neighboring Union.

All which is respectfully submitted.

ALLAN N. McNAB, *Chairman.*

22d March, 1848.

(From the Philadelphia "Commercial List.")

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 23d May, and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	7,377 19	37,112 13
By Room Run	4,668 14	21,244 16
By Hazleton	2,858 00	15,176 00
By Beaver Meadow	1,050 00	13,234 04
By Spring Mountain	1,790 19	11,001 08
By Buck Mountain	2,405 11	12,094 17
Total	20,151 03	112,863 18

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 25th May, and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	14,401 14
" Pottsville	4,855 15
" Port Carbon	9,227 14
" Port Clinton	4,758 13
Total this week	33,213 16
Total this year	423,015 01

The amount of coal brought to market by the Schuylkill canal during the week ending the 25th May, and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	9,597 08
" Schuylkill Haven	3,810 05
" Port Clinton	000 00
Total this week	13,407 13
Total this year	84,566 07

Recapitulation.—Total Shipments this Season.

By Lehigh companies	112,863 18
By Reading railroad	423,015 01
By Schuylkill canal	84,566 07
Total	620,445 06

Wilmington and Raleigh Railroad.

Twelfth Annual Report.

Continued from page 342.

REPORT OF THE EXAMINING COMMITTEE ON ACCOUNTS, ETC.

We, the committee, pursuant to the appointment made at the last annual meeting of the stockholders of the company, for the purpose of investigating the affairs of the company for the year ending the 31st October, 1847, beg leave to report that we have carefully examined the accounts of the company, compared the vouchers, way and freight bills, with the entries in the books, and find the same correct.

We find the total liabilities of the company on the 1st day of October, 1847, amounted to $641,026, which sum is made up of the following items, viz:

For bonds sold in England, bearing 5 per cent. interest	$222,666 67	
For bonds endorsed by the State of North Carolina, at 6 per cent. interest	250,000 00	
For bonds due the Literary Fund of N. Carolina, at 6 per cent. interest	85,000 00	
By bills payable at bank and to individuals, at 6 per cent. interest	21,694 54	
For scrip bonds to contractors, at 6 per cent. interest	1,793 43	
For negro bonds due 1st Jan, 1843, do	505 00	
" " 1845, do	894 00	
" " 1846, do	545 48	
" " 1847, do	2,999 00	
" " 1848, do	18,523 50	
By amount due on pay rolls and to sundry individuals for materials, labor, etc.	36,404 38	
		641,026 00

Amount of receipts from railroad and

steamboats for the year ending 1st October, 1847, viz:

Railroad		194,128 89
steamboats		137 351 31
		331,480 20

Amount of expenditures for railroad and steamboats for the same period, viz:

Railroad	140,995 32	
Steamboats	118,915 28	
		259,942 60
Net profits from road and boats		71,537 60

We further report there was in the hands of the treasurer of the company on the 1st day of October, 1846,

In cash	$3,358 56
That there was due the company from individuals, and in the hands of agents etc	7,701 09
Which together with the sum of	71,568 60
Net profits of road and boats for the year ending 1st Oct., 1847, making the sum of	82,630 25
That of the above sums, there has been applied to the payment and reduction of the debts of the company	27,791 52
To the payment of interest	37,121 82
For survey of the Wilmington and Manchester road	100 00
For damages on tobacco	129 85
There has been lost by counterfeit and uncurrent money	501 25
Due the company from individuals and in the hads of agents, 1st Oct., 1847	7,529 21
In the hands of the treasurer of the State of North Carolina to pay interest	909 42
In the hands of the treasurer of the company, in cash, 1st Oct. 1847	8,517 18
	82,630 25

Comparative statement of the annual receipts, expenditures and profits of the company, together with a statement of the rates of fare, and number of passengers.

	Receipts	Expenditures.	Profits.	Rate	No. passengers. Through.	Way.
'41	297,228 39	241,945 34	52,283 05	$20	9742	5498
'42	211,977 48	180,892 65	31,083 83	*13		
'43	286,172 99	148,166 17	78,006 82	13	8450	13574
'44	269,523 75	203,633 24	85,900 51	13	10358	16041
'45	288,493 45	212,091 20	76,402 25	12	14018	16393
'46	317,822 49	289,682 45	28,140 04	12	11885	20498
'47	331,480 50	259,912 60	71,567 60	10	12997	25396

* Part of papers destroyed by fire.

PERSONS IN THE EMPLOY OF THE COMPANY.*

	Salary.
A president	$2,000
1 secretary and treasurer	1,500
1 superintendent of road and repairs	1,200
1 steamboat agent at Wilmington	1,000
1 steamboat agent and mail carrier at Charleston, including wharf hands	1,400
1 clerk to treasurer	600
1 transportation agent at Wilmington	800
1 agent at Weldon	800
1 superintendent of shops and machinery	1,000

* * * * * *

Respectfully submitted, H. NUTT,
J. GRISWOLD,
WM. S. BAKER.

The committee having had access to various authentic statistics, and having bestowed some considerable time and attention to the matter of a railroad connection with the Wilmington and Raleigh railroad, and the South Carolina railroads, deem it proper to present their views as to the result of such connection.

It will be seen by the foregoing comparative table, that the through travel has increased from the year ending 1st Oct. 1841, to the year ending 1st Oct., 1847, about 22 per cent., and that for the same period the way travel has increased upwards of 350 per cent., while the freight has increased in about a corresponding ratio with the way travel.

Now keeping in view the above gradual increase of through or long travel, and the great annual increase of the way travel and freight, all of which are matters of fact and of record, together with the vast increase which must inevitably occur by a railroad connection instead of the present (undeservedly unpopular, though safe) connection by steamboats, the extension of the South Carolina, Georgia and Alabama railroads, those of Georgia going rapidly onward into the heart of Tennessee, and will ere long probably reach the Mississippi river, and the increased intercourse between the Atlantic States and Louisiana, Texas and Mexico, they think they hazard nothing in saying, that in addition to the regular annual increase there would be a further increase of at least 100 per cent. in the through travel on the completion of this connection; but to be within bounds, with an earnest desire not to mis state, or deceive any one, they make the following statement based upon an increase of only 50 per cent., which they believe, when duly considered, must be manifest to any person. They, therefore, respectfully submit the following statement:

Capital stock of the company, being amount of stock paid in, viz		$1,338,143 00
And amount of company's debts on 1st October, 1847		641,026 00
		1,979,169 00
Deduct therefrom value of four steamers, furniture, provisions, etc., and wharf and lot in Charleston		183,000 00
Leaving, as capital stock, the sum of.		1,796,169 00
Now take the railroad receipts for the year ending 1st Oct., 1847, (excluding those of the boats)		194,128 89
And add thereto 50 per cent. for increased receipts		97,064 44
		291,193 33
Expenditures of railroad for same period, including new iron and every expense	140,995 32	
Add thereto ten per cent., which is ample for increased expense of transportation	14,099 53	155,094 85
And you have for net profit		$136,098 48

Which is upwards of 7½ per cent. upon the capital as above stated; and within a small fraction of 7 per cent on the capital stock paid in, together with the debts of the company, exclusive of the amount to be derived from the sale of the boats.

REPORT OF THE ENGINEER & SUPERINTENDENT.

Office Wilm. and Raleigh R. R. Co.,
Wilmington, Oct. 1, 1847.

GEN ALEX. McRAE, President.

Sir: I have the honor of submitting the following report of the department under my charge for the past year:

Immediately after entering upon the duties of my office, in the early part of March last, I made a critical and thorough examination of the road. I found the ditches in many places filled up, and as a natural consequence the road did not have its proper level or allignment. The bridges and truss works, especially the latter, were much decayed. To remedy the first, directions were given to cut the ditches, particularly in excavations, wider and deeper than the original dimensions, which has in a great measure been accomplished. The force employed on repairs of bridges and truss works was materially increased, by drawing hands from other portions of the road, and employing some few white carpenters. The necessity of this will be better understood when it is known that there is 4½ miles of truss work, the greater part of which was constructed on piles, now rapidly decaying, and requiring new trestles which shall rest on the ground. The truss works at Rockfish, Neuse river, and Swift creek, and the lattice bridges at Rockfish and Quanky, have undergone thorough repairs—the latter having been newly covered with cypress plank.

A dirt train was organized and put in operation, for the purpose of filling up the truss crossings, and continued to perform effective service, until it became necessary to withdraw the hands to lay down iron. Neuse river and Rockfish truss works having no adjacent excavations, can be filled in much cheaper by earth taken from the sides, and I recommend that this plan be adopted.

Annexed will be found the expenditures from the 5th of March, (including negro bonds from the 1st January) arranged under two heads, viz: road repairs and transportation. The first embraces all the expenses of keeping the road in repair during that period —and the second, that portion of the transportation department proper, which includes the purchase of wood, the cost of keeping depots and water stations, and other incidental expenses. The object of classifying the accounts in this way, is to exhibit annually the cost of each item, which cannot be otherwise obtained. The treasurer's abstract of expenditures shows the amount paid or credited in his books for each department, *without reference to the date of* the account, while my books exhibit the amount for all articles procured *during the year only.* Hence the discrepancy in the accounts.

It will be seen that the expenditure for railing is a large one, and it will continue to increase so long as the present 2 x ⅝ iron is in use. Pitch pine, such as is used for railing, will last an average of seven years, yet without a large quantity of heavy iron, one-third of the amount on the whole road will require renewing the ensuing year. This is caused by the iron being *crushed* into the wood, separating its fibres, and requiring a new rail, long before the timber exhibits the least sign of decay. Consequently, the amount of railing annually required will continue to increase in a greater ratio as the iron becomes more broken. I think, therefore, arrangements should be made to purchase an-

* We omit the long list of persons, 458 in all, employed by the company—merely giving the heads of departments.

nually sufficient iron to renew at least 20 miles of road, which will take nearly eight years to relay the whole road—quite as long, *under any circumstances*, as the present small bar can be safely used. If this is not done, the repairs of road, locomotives, coaches and cars, will, in a few years, amount to quite as much as is *now* necessary annually to purchase the iron.

Experience has so conclusively demonstrated the superiority of the heavy H and bridge rails over every other form known, that it is unnecessary to recommend the adoption of one of these patterns, if the company's means are adequate for that purpose. The repairs of a road constructed with this iron will not exceed $175 per mile, while the past year the expenses were $510, and the repairs of locomotives and cars would decrease in like ratio.

Next is the flange rail, which may be used with success, provided the bearing surface and thickness are sufficient to prevent being embedded in the wood. The estimates are intended for this pattern, weighing 48 tons per mile.

Bills of lading have been received for 107 tons 2½ x inch, and 70 tons 2½ x ¾ iron ordered by yourself, a part of which has been received, and is being rapidly laid down.

26 I ‖ 10 tons of broken iron unfit for use have been sold, and there is about 80 tons on hand to be shipped as soon as a vessel can be procured to take it.

In the annexed estimate of expenses for the ensuing year, will be found the following items, not included in former estimates, viz: Roofing Northeast, Rockfish, and Neuse river lattice bridges, warehouse at Stricklands, and putting draw for the passage of boats at Neuse river. These expenditures, together with the increased amount estimated for iron are deemed indispensably necessary, and swell the amount beyond former years, but in other respects they do not differ materially.

The large expenditure for wood was caused by the completion of contracts originally intended by steamboats, but for want of motive power, it has been decided to use it as the adjacent depots; and, also, by a large quantity cut in clearing the sides of the road.

Very respectfully,
Your obedient servant,
L. J. FLEMING,
Engineer and Superintendent.

Expenditures from the 5th March, 1847, to the 1st Oct., 1847, including negro bonds from the 1st of January.

ROAD REPAIRS FOR

372,981 line feet railing		$12,230 13
9,779 " sills		1,748 15
191,848 sup'l feet truss timber		1,722 15
spikes		1,086 10
iron		12,211 55
Provisions, clothing and tools		5,113 04
Pay of officers, overseers and hands		7,816 54
Negro bonds from 1st Jan., 1847, to date.		10,383 38
Cost of running timber and dirt train		1,200 00
Miscellaneous		242 21
Total		53,753 28
Deduct amount received from sale of old iron		914 38
		52,838 90

TRANSPORTATION FOR

5,556¼ cords of wood	5,393 73	
Bonds for negros at water stations from 1st Jan., 1847, to date	1,053 75	
Cost of keeping water stations, including agency at Weldon	1,889 89	
Timber for Weldon shed	153 34	
Repairs, warehouses and water stations	236 87	
		8,732 58
Total		61,571 48

ESTIMATES FOR THE ENSUING YEAR.

Railing, 500,000 lineal feet	$16,400
Sills, 38,000	8,550
Truss timber, 400,000 sup'l feet	2,400
Iron, 960 tons flange rail	69,120
Spikes, 30 tons	3,500
Master carpenter, 1	730
Overseers, 18	6,480
Negro hire for common repairs, 200	14,000
" timber and dirt trains, 30	2,100
" for carpenters, 25	3,750
Cost of running timber and dirt trains	1,920
Provisions, clothing and tools	7,800
Wood, 5000 cords	5,000
Depot agents including agency at Weldon	3,500
Warehouses and Weldon shed	8,500
Roofing Northeast and Rockfish bridges	1,250
Roofing Neuse bridge and putting draw in	850
Miscellaneous	2,500
	150,700
Deduct for old iron on hand and to be taken up in laying new	14,500
	136,200

REPORT OF THE STEAMBOAT AGENT.

Gen. Alex. McRae Prest. W. & R. R.R. Co.

Sir: Since my last annual report, the expenses of the steamboat department have far exceeded the ordinary amount, owing to the demands of the travelling public, requiring extensive alterations of the boats.

The Gov. Dudley was sent, by order of the board of directors, to New York, where she underwent extensive alterations, under the supervision of Mr. C. Vanderbilt, (and a more practical man could not have been selected,) and such was her appearance on her return, it was thought advisable to give the C. Vanderbuilt the same alteration; and then it was found necessary to give the Wilmington the same form, as she required large repairs, which are completed. She is now ready to take her station on the line. These three boats are now in complete order, well worthy the public confidence.

The Gladiator will require the same alterations, but not the same extensive repairs.—And I would respectfully suggest her overhauling be deferred until spring, when we will have longer days and may look for better weather.

For the want of punctuality in the wood contractors for 1846, a large outlay of money was required to supply the deficiency, and as the new contracts did not commence until the 1st of January, 1847, and some of them being new contractors, they did not commence the delivery until the 1st of March; this will account for the increase of this article this year. It is estimated we consume from 11 to 12,000 cords annually; from the best estimate I can make there is on hand (on the wharf) 1,000 cords, and stores, rigging, etc., to the amount of $1200. Respectfully submitted,

JOHN A. TAYLOR, Steambont Agent.

Statement showing the number of miles run by each engine for the year ending 1st Oct., 1847.

Number.	Names of Engines.	The No. days engine was in service.	The No. days engine was in repair.	Number of trips on freight train.	Number of trips on mail train.	No. of days employed on timber train.	No. of days employed on wood & dirt do.	No. of miles run on freight train.	No. of miles run on mail train.	No. of miles run on timber train.	No. of miles run on wood & dirt do.	Total No. of miles run.
1	Henry Clay	251	63		754				24462			21,462
2	Johnson	67	239	4	254			1186	8262			9,448
3	W. H. Haywood	124	117		62				20068			20,068
4	W. A. Graham	158	49		79				25596			25,596
5	E. B. Dudley	156	71	15	561		30	3988	17982		300	21,970
6	Edgecombe	189	71	5	53			580	17172			18,052
7	Brunswick	343	75	26	1		63	2146	321		630	3,100
8	Duplin	240	73	10	9	136		1341	2916	4760		9,020
9	Cumberland	244	69	11	44	163		2804	1458	6320	240	1,022
10	Halifax	244	24				24				2440	2,410
11	J. K. Polk	244	169	32			244	9702				9,702
12	J. C. Calhoun	184	121	46				10612				10,612
13	Bladen											
14	Greene	15	10				15				240	240
15	New Hanover											
16	Sampson							32362	116360	11280	3840	165,752
17	Nash											

REMARKS.

1. Norris engine, large class in good order.
2. Baldwin engine, undergoing repairs.
3. Burr, Pea & Sampson engine, in good order.
4. Baldwin engine, large class, in good order.
5. Burr, Pea & Sampson engine, in good order.
6. Norris, small class engine, in good order.
7. Do. do. now running, wants repairs.
8. Do. do. in good order.
9. Do. do. do.
10. Burr & Sampson small engine, wants repairs.
11. Baldwin large class engine, in good order.
12. Do. do. do.
13. Norris small class engine, undergoing repairs.
14. Unfit for service until rebuilt.
15. Norris engine, light class, out of order.
16. Out of order.
17. Do. do.

T. SURADER, Supt. of Machinery.

The Wilmington and Raleigh Railroad Co. in Account Current to 1st October, 1847, with James S. Green, Treasurer.

		Dr.
To amount paid for construction of railroad and steam packets		$2,252,569 96
Do. paid for real estate		22,482 46
Do. on deposit in Branch bank Cape Fear at Raleigh, to pay int.	609 42	
Do. in hands C. L. Hinton, State treasurer, to pay interest	300 00	
		909 42
Do. paid 1st and 2d instalment of subscription to survey of Wilmington and Manchester road		150 00
Do. due on J. J. Bryan's stock, twenty shares, taken by the company for balance due		950 00
Do. bills receivable	853 37	
Do. due by agents	2,818 60	
Do. due by individuals	2,840 93	
Do. due from postoffice depart.	1,016 31	
		7,529 21
Do. counterfeit and uncurrent money on hand	3,048 20	
Do. cash on hand to balance	8,547 05	
		11,595 25
		2,096,186 30

		Cr.
By am't received from stock subscribed		$1,338,143 08
Do. bonds payable in London	222,666 67	
Do. of bonds endorsed by the State of North Carolina	250,000 00	
Do. of bonds to Literary fund N.C.	85,000 00	
Do. of bills receivable to bank and to individuals.	21,691 51	
Do. of scrip payable to contractors	1,793 43	
Do. due on pay rolls, shop, boat and road	7,901 16	
Do. due contractors	10,613 52	
Do. due to other individuals	16,142 31	
Do. of negro bonds for 1842	505 00	
Do. " " 1841	894 00	
Do. " " 1845	545 48	
Do. " " 1846	2,999 00	
Do. " " 1847	18,523 50	
Do due agent	1,747 36	
		611,026 00
By balance of profit and loss account.		45,449 62
By steamboat account, being profits for the year	18,434 03	
By railroad, do. do.	53,133 57	
		71,567 60
		$2,096,186 30
1847, Oct. 1. By balance brought down,		8,547 05

E. and O. E. JAMES S. GREEN, Treasurer.
Wilmington, October 1, 1847.

PENNSYLVANIA RAILROAD COMPANY. Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law. GEORGE V. BACON,
May 13—8t Treasurer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
25 Platt street, New York.
May 6, 1848.

FULLER'S PATENT INDIA RUBBER Railroad Springs.—These Springs are composed of alternate layers of India Rubber rings and Metallic plates, and are superior to those made of steel, for the following among other reasons:—

First—On account of their extreme simplicity, and the impossibility of their being broken or damaged.

Second—Their lightness: the elastic malerial not being more than one-tenth of the weight of steel springs of similar strength, thereby saving many tons of dead weight in a long passenger train—a matter of great economy in working railroads.

Third—The facility with which the power of these springs may be regulated: first, by increasing or diminishing the diameter of the ring; and next, by increasing or diminishing the number of the rings in each Spring.

Fourth—It is a particularly good material for Buffers; because, when first pressed, they are much more elastic, and more easily acted on than steel; whilst the power of resistance, after yielding to a certain extent, increases in such a ratio as to prevent the possibility of the Buffer-head being brought to a *dead hard stop*. And from this arrangement, the most valuable results may be anticipated in cases of collision.

Fifth—The easy motion given to the cars and engines which are fitted with these Springs—there being none of that jarring or vibratory motion so apparent with steel springs; and consequently there is a great saving of wear and tear, both to the cars and the permanent way. The recoil of a steel spring is frequently more harsh than the actual giving of the spring in the first instance, and this recoil is altogether obviated by India Rubber Springs.

Sixth—The cost of India Rubber Springs will be found less than those of steel, and they are calculated to last very much longer.

These Springs and Buffers have now been tried for upwards of three years, under very able superintendence, and with the most decided success. They are in general use upon the principal lines in England and Scotland, (among which may be mentioned the Great Western, the Midland, the London and North-Western, the Eastern Counties, London and Brighton, London and Dover, North Staffordshire, and Caledonian Companies.) They are also used in other parts of Europe. The patentee, therefore, feels justified in stating that he is prepared to furnish not only a more efficient Spring and Buffer than any hitherto in use, but a more durable one, and upon terms which will effect a considerable saving to Companies.

The most satisfactory trials have been made as to the non-liability of this material being affected by extremes of cold or heat; nor will any amount of pressure permanently alter its shape or structure. The patentee therefore submits the invention to the public, with the confident anticipation of its successful and general adoption.

The patent for this invention was granted to Mr. W. C. FULLER, in October, 1846, and the same gentleman has patents for it in England and other countries in Europe. The sole Agent in the United States is Mr. G. M. KNEVITT, who will show models and drawings of the various modes of application to *passenger cars, engines, tenders, wagons, etc.*, and give further particulars as to its satisfactory working; and is prepared to supply the Springs in any quantity, or to grant licenses for manufacturing them.

Principal Office, 78 Broad Street, New York.
And a Branch Office at Messrs JAMES LEE & CO.'S, 18 India Wharf, Boston.

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.
Kensington. Philadelphia Co., March 12, 1848. 11tf

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. / A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d qy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC.,

Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY,

Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

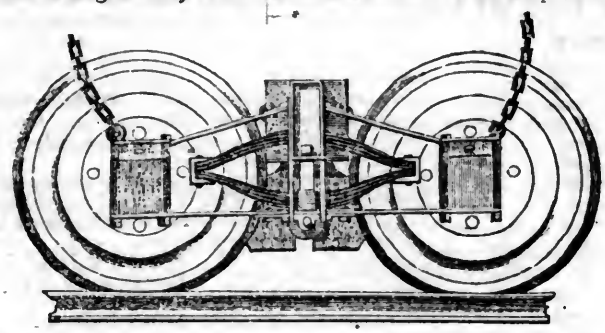
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

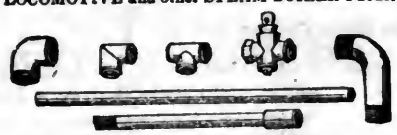
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TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ½ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

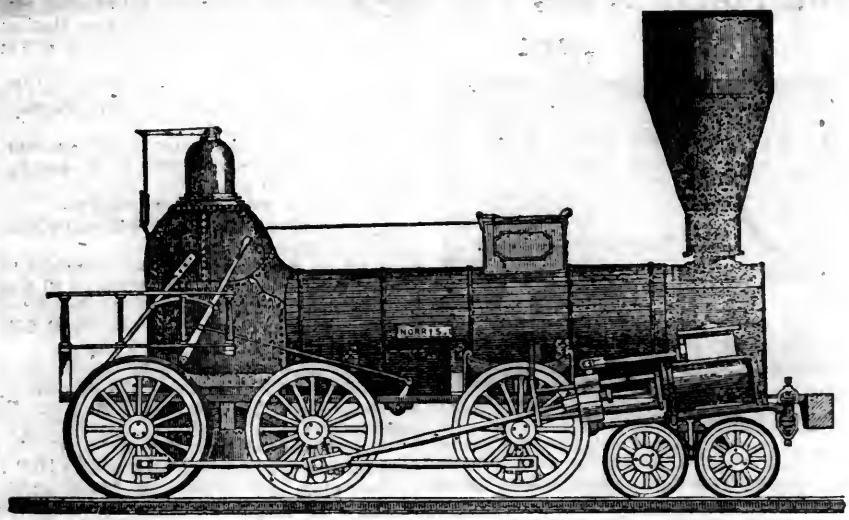
JAMES D. MOWRY,

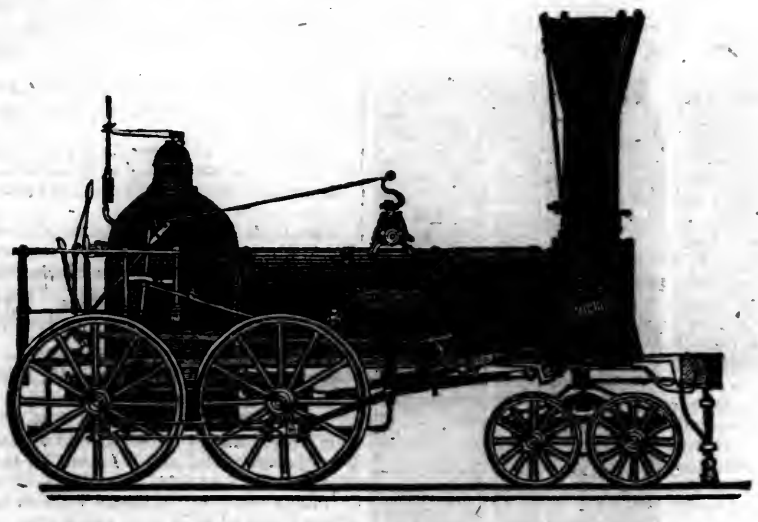
General Agent,

Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.
BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required; large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

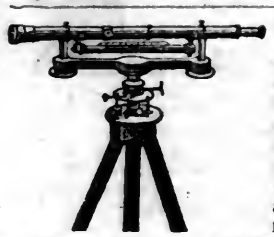
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y•21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

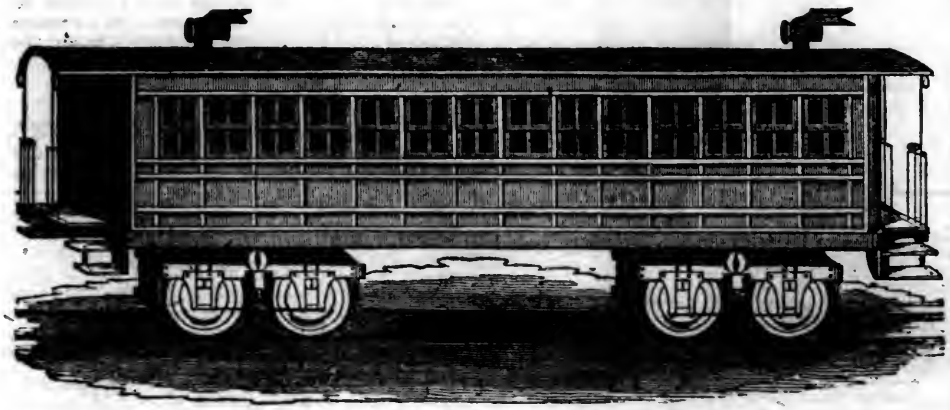
Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

•,• Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufeturing so as to keep pace with the daily increasing demand.

ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 1 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5½ p.m.

For Reading 7, 8½ & 11½ a.m., 2½, 4½, 5½, 6½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4½ p.m.

From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m

From Reading at 6, 7½, 9½, 11½ a.m., 1½, 4, 7½, 9½ p.m'

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.

Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, April 15, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, May 1st, 1848.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 10 a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Allyn's Point for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Ja., Sup't.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at ..... 5½ p.m.
Returning, leaves Owing's Mills at ..... 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pitusburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2 25 and	1 90
" Pottsville "	34	1 40 and	1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y31

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Eric railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon		$1 00
" "	" Xenia	1 50
" "	" Springfield	2 00
" "	" Columbus	4 00
" "	" Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

17tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44-1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.



This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
4y40 Gen'l. Sup't Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Rail road, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1½ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, June 10, 1848.

To Contractors.

It will be seen, by the following notice, that the people of Hartford, Conn., and Providence, R. I., have decided to have a railroad communication between those important points without much delay. By a map of the Providence and Plainfield railroad, accompanying the report of Mr. James Laurie, in relation to that work—which is to be a part of the line from Hartford to Providence—it appears that from Willimantic, some miles east, it will follow the route of the proposed New York and Boston "air line" road. The construction of this road across the country will accommodate a large amount of business and travel, and add materially to the business of the cities of Hartford and Providence; and it is a work worthy the attention of those seeking contracts.

HARTFORD AND PROVIDENCE RAILROAD.—Notice to Contractors.—Sealed proposals will be received by the Directors of the *Hartford and Providence Railroad Company*, at their office in the city of Hartford, near the Postoffice, until the 1st day of July, for the Grading, Piling, Masonry and Bridging of that portion of the road extending from the east bank of Connecticut River to Willimantic, about 29 miles.

The Maps, Profiles, Plans and Specifications will be ready for examination on and after the 26th day of June.

The line will be divided into convenient sections, and proposals may be made for one or all the sections, or for the whole work except the superstructure.

EDWARD H. BROADHEAD.
Chief Engineer H. & P. R. R.

Engineer's Office, Hartford, }
May 27, 1848. } 4t24

Office St. Lawrence & Atlantic Railroad Co., }
Montreal, June 2d, 1848. }

NOTICE TO CONTRACTORS.—SEALED Tenders, (directed under cover to the Secretary,) will be received at this office, until the 24th inst., for the Laying of the Superstructure upon the Montreal Division of the St. Lawrence and Atlantic Railroad, extending from the River St. Lawrence to the Village of St Hyacinthe, a distance of about Thirty Miles.

Plans and Specifications will be ready for the inspection of Contractors, on the 15th of this month, and they are respectfully requested to make application to the resident engineer of said division (R. T. Bailey, Esq.,) for information in regard to the manner in which the work is to be performed.

No Tender will be considered unless accompanied by the names of two respectable sureties, personally known to the company or engineer, and, in all cases, undoubted security will be required.

The work must be commenced on the 1st July, or immediately after the contracts are closed, and completed by the 1st of October next.

3t24 THOMAS STEERS, Secretary.

Pennsylvania and Ohio Canal.

We take pleasure in furnishing the following information respecting this work, the stock of which is held principally by our citizens:

The entire line of canal is in fine order, the damages occasioned by the flood at the close of the navigation last fall having been repaired in season for opening navigation at the earliest period.—The Ohio and Erie extension canals were opened in the spring.

The amount of tolls received up to 21st May, 1847 and 1848.

At Youngstown in 1848	$8,546	
" " 1847	6,621	
Increase in 1848		1,925
At Ravenna in 1848	$3,153	
" " 1847	2,348	
Increase in 1848		805
At Akron to May 1, 1848	1,279	
" " 1847	973	
Increase in 1848		306
Total increase in 1848, up to 21st May		3,036

The following gentlemen have been elected directors for the ensuing year, viz:—

Leicester King, George Parsons, Francis Freeman, Jacob Perkins, of Warren, Ohio; Seth Day, Ravenna; Charles T. Whippo, New Castle, Penn.; Robert Toland, Philadelphia, Penn.—And the governor of Ohio has appointed Thomas D. Webb, of Warren, and Cyrus Prentiss, of Ravenna, as directors on the part of the State.

We understand that it is the design of Leicester King, Esq., the president, to resign his seat in the board, and it is probable that Thomas D. Webb will be his successor.—*Penn. Inq.*

Cleveland and Pittsburg Railroad.

We learn from a letter dated Ravenna, Ohio, May 25th, 1848, that "the work on this line is going forward rapidly, more than one-half is under contract, and twenty-five miles more is now being located from Hudson to Cleveland. The whole route has now been surveyed and found to be very cheap of construction. The whole length of the road is 97 miles from the river to the lakes, passing through a rich and thickly populated country, and passes inexhaustible beds of bituminous coal. The friends of the road have entire confidence in its paying dividends equal to any road west of the mountains."

And so have we confidence in the entire success of the road, when completed, which we hope may be the case at an early day.—[ED. R. R. J.]

Nashville and Chattanooga Railroad.

The surveys of the Nashville and Chattanooga railroad are, we understand, progressing rapidly; and a considerable portion of the road will probably be prepared for contract by an early day in July.—The work to be first let is that passing over the Cumberland mountain, consisting of one tunnel, and much heavy work—offering strong inducements to contractors of skill and experience. The country is healthy, and provisions are cheap and abundant.

The work is 152 miles in length, connecting at Chattanooga, on the Tennessee river, with the Western and Atlantic railroad of the State of Georgia. This road is 139 miles in length, (of which 39 miles are unfinished, but under contract,) extends to Atlanta in Georgia. This place is connected with the Atlantic coast at two points. The Georgia railroad, 171 miles long, extending to Aususta, and the South Carolina railroad, 136 miles, thence to Charleston, forms one line; and the Macon and Western railroad, 101 miles, and the Central railroad, 192 miles, form another line passing through Macon to Savannah. Thus the Nashville and Chattanooga railroad will be finished under peculiar advantages, having 738 miles of finished road, leading through Georgia and South Carolina, and thus connecting it with market. The country traversed by this road is one of vast mineral and agricultural wealth, filled with a hardy, industrious and intelligent population. Its resources, though undeveloped, for want of easy access to a market, are truly gigantic. A large proportion of its lands, of inexhaustible fertility, lie uncultivated, and its coal and iron still slumber in their native beds.

With the local trade of such a country, added to the great commerce to be expected at its terminus on the Cumberland at Nashville—which is indeed a

connection with the Mississippi valley—this work may be fairly ranked as second to none in the Union, and its stock cannot fail to be a very profitable investment.

The work was surveyed in 1846, under the direction of J. Edgar Thomson, Esq., who estimated the road to cost $2,810,000, with an addition of $320,000 for locomotives, cars, warehouses, etc. This estimate is made on the supposition of a tunnel 2100 feet in length, and about six miles of graduation so steep as to require an assistant engine for freight trains. An addition of $300,000 to the cost of this road, would secure a maximum grade of 42 feet per mile on the entire route. This seems almost incredible, when it is remembered that it crosses all the mountains dividing the Atlantic from the valley of Mississippi, yet it is nevertheless true, and we think there should be no hesitation about making the additional outlay at first, as it will have to be made soon, if not now.

Nashville itself is a beautiful and flourishing city, which has increased, and is increasing with truly *western* rapidity. It bids fair to be a large and very important city; and a central point for an immense business yet to be created by railroads from the now undeveloped and almost valueless resources of Tennessee.

But a few years will pass before a railroad will be constructed from Nashville to the Mississippi river direct—and other roads intersecting it from the north and from the south—thus opening up all that region, and bringing it within three days of the Atlantic, and not much more distant from New Orleans. When this shall be accomplished, who can estimate the rapid growth and prosperity of the State of Tennessee?

Furnaces, and the Iron Manufacture.

We published in No. 19, or May 20th, of the Journal, a call upon those engaged in the manufacture of iron, or in charge of iron works, for the dimensions, and average yield, of their furnaces. In that list we accidentally omitted one important item, viz: the "dimensions of the tunnel head"—and therefore we now republish it, and renew the call upon those interested in the manufacture of iron, and upon those having the information, that we may be able to publish it.

We also give, in this number, a communication from Wm. Firmstone, Esq., of the "Glendon Iron Works," at Eason, Pa., in reply to that call, which will show the convenience and utility of the information asked for—and desire to express our thanks to the writer for the favor.

"It has been suggested to us by a practical iron master, that it would be useful to those engaged in the business, and interesting to others, if those in charge of furnaces, in different parts of the country, will answer the following questions for publication in the Journal, viz:

"*Height* of each furnace?

"Diameter of boshes?

"Diameter of the tunnel head?

"Capacity of furnace?

"Distance from foot of boshes to level of tunnel head, at filling plate?

"Gas flues—how many feet below filling plate?

"Number, and size in inches, of tuyeres or nozzles?

"Number of cubic feet of blast per minute?

"Number of pounds pressure of blast?

"Temperature in degrees of Fahrenheit?

"Number of tons iron made—average per week?

"Kind of ore and fuel used, and average quantity of each required to make a ton of iron?

"We shall be very much obliged to them if they will furnish us with these, and *other facts*, in relation to the business, for the benefit of those interested in its prosperity. Letters with this, and similar information need not be post paid."

Glendon Iron Works,
Easton, Pa., May 26th, 1848.

Dear Sir: I send you a statement of the size and make of the Glendon Furnaces, as you request.

I noticed in your Journal of 22d April, an article, stating that a furnace of 10 feet bosh averages about 93 tons per week; 12 feet, 126 tons; 18 feet, 150 tons—and that the 12 feet bosh seemed to yield, in proportion to it size, 15 tons per week more than the 10 feet; and the 10 feet, 17 tons more than the 18 feet. This may have been so in the particular case alluded to; but I conceive that the system of comparison adopted was the common one, which is founded in error, viz: estimating by the area of the furnace, immediately at the boshes, without regard to the size at tunnel head. Now, "to state an extreme case.', two furnaces of equal height may be, one 10 feet at the boshes, the other 12 feet; the 12 feet furnace 10 feet at the tunnel head, the 10 feet furnace 12 feet, and they will each have the same capacity, and make about the same quantity of iron, if equally well handled.

You will perceive that the Glendon furnaces, respectively 10 and 12 ft. bosh, make iron very nearly in proportion to their inside capacity in cubic feet, and to the quantity of blast admitted at the tuyeres. It has now become so common to make furnaces cylindrical, from the boshes to within a few feet of the tunnel head, that a furnace 12 ft. bosh nominally, is more than equal in capacity to a 14 feet bosh, on the old conical plan. According to my observation and experience, the capability of a furnace to make iron in quantity, does not depend at all on the size at the boshes, "in itself," but on the total space included within the inside lining walls, and this probable irrespective of height. No. 1 furnace, 39 feet high, works equally well with No. 2 furnace, 45 feet high. The most proper height of anthracite furnaces does not appear to be yet settled, and a good deal of diversity of opinion prevails on the subject. Furnaces vary in height from 30 up to 50 feet.

From all I have seen and heard, I think it probable that a furnace 40 feet high, with a given capacity, will make more iron than one of greater height with same capacity; but we lack authentic information on the subject for comparison.

Respectfully, Wm. Firmstone.

GLENDON FURNACE.	Height of furnace.	Diameter at top of boshes	Diameter at foot of boshes.	Diameter at tunnel head.	Height of furnace, from foot of boshes to tunnel head at filling plate.	Gas flues—feet below filling plate.	No. of nozzles used.	Diameter of nozzles.	Pressure of blast.	Temperature of blast.	Cubic feet of blast used per minute.	Tons of iron made per week, average.	Capacity of furnace for stock.	Slope of boshes.	Fuel used.	Remarks.
	ft.	ft.	ft.	ft.	ft.	ft.		in	lb	deg.			c.ft.	o		
No. 1.....	39	10	6	8	33	3		3¾	600		7500 to 8000cf.	87	2950	67	Anthracite coal.	Average from 1st January to 1st April, 3 mos
No. 2.....	45	12	6½	8	39	7		3¾	600			120	4300	70		

Forgetting Ones Own Name.

We have often had occasion to apologize to esteemed friends, and valued acquaintances, for an apparently radical defect in the organization of our faculties—the very great difficulty of applying the name to faces perfectly familiar. So great, indeed, is the difficulty, that we have, at times, not been able to call the name of a gentleman with whom we had been accustomed to meet almost daily, for more than a year; yet we have seldom found it difficult to recollect—though there *may* have been times, and places, when and where, we would rather not have *given*—our own name. There *have* been cases, however, we believe, in which very worthy gentlemen have, for a time at least, lost the power to give their *own* name—we have heard of one which occurred at a post-office, where a gentleman of good address inquired—"Any letters for me, sir?" "What name, sir?" said the delivery clerk. "What name? ah, yes—my name is —— is —— upon my word I cannot recollect just now, sir, I will call again,"—and away he walked musing to himself," my name is —— *well*, now, this *is* singular"—until he was met by an acquaintance who addressed him, "Good morning Mr. B——; how are you now." *That's it, that's it*—yes B——, that *is* my name," and he returned to the post-office and got his letters. It is not, however, in this instance, as easy for us to solve the difficulty under which we labor, as it was with the gentleman at the post-office; as the gentleman, who has apparently forgotten his own name, when writing to us, to send him the Journal, including a bound volume, and a receipt for a *ten dollar bill* enclosed in his letter, is not within two hundred miles of us, and we have no other way, that now occurs to us, to remind him of the important omission in his letter, than to address him by the appellation of "the man who forgot to give his name," and send the Journal, as directed, which we have done. We cannot, however, close this allusion to our embarrassment without giving him our hearty thanks for his remittance, and to acknowledge, with pleasure, that he did not forget to pay the "*fip*," to uncle Sam, for the safe delivery of his letter, and remittance—a courtesy which *we*, ourselves, have not been *always* as precise, as we ought to have been, to observe.

Charlotte and South Carolina Railroad.--Its Connections Northward and Southward.

We understand from the most reliable source, that the grading of this road from its southern terminus, (Columbia, S. C.,) to Chesterville, S. C., 63 miles, has been let, and that 25 miles more will be let by 4th of July next, leaving but 20 miles to be let. The northern terminus of this road is at Charlotte, N. C., the position of the U. S. mint, and it was, we are informed, confidently believed that the railroad convention, which was to assemble at Salisbury, N. C., on the 6th instant, would take measures to obtain a charter for a road from Charlotte, N. C., to Danville, Va., which will effect a connected line of railroad from Columbia, S. C., to Richmond city, Va., as we understand that the railroad from Danville to Richmond is now in progress.

Looking southward, the lines of railroad are already in operation from Columbia, S. C., to Othcalooga, Ga., near the Tennessee. A railroad has been chartered from Atlanta to La Grange, in Ga.—from La Grange to West Point, on the Chattahoochee, (near the Georgia and Alabama line,) is only 15 miles, a short link which will be soon made by private enterprise. The distance from West Point to Montgomery, the capital of Alabama, is 89 miles, of which 67 miles, from Montgomery to Opelacca, are finished and in operation. From Montgomery to Pensacola, 156½ miles, a line is chartered, and will probably be built at no distant day, thus we see in prospective a continuous line of railroad from

Boston to Pensacola through the most densely populated and prosperous region of country.

A line connecting Columbus with the Macon and Western road, has also been chartered, and one from Macon to Fort Gaines is now, we believe, in course of construction, which also looks to Pensacola as a terminus. When these various lines, together with the line to *Nashville*, shall have been completed, then we may anticipate a prosperous business for the line here indicated, as well as the lower line through Wilmington, for they *must* complete *that* line in *self-defence* if this line is made—and then we shall see the south and the north connected with bonds of iron, well calculated to make the people of the different sections know and appreciate each other more correctly. A few years only—*less* than *ten*—will accomplish all these, and many other lines in those States, increasing the amount of business and value of property in the south to an astonishing extent.

Railway Traffic.

Tho following report of railway traffic for the week ending about the 20th April, shows a large increase of mileage during the last year, and a very considerable reduction in the *per mile* earnings. It does not follow, however, that there has been so great falling off on the old lines, or where the traffic *had* been developed, but it arises mainly from bringing into use so large a proportion of the whole mileage, upon which a comparatively small traffic has yet been drawn out. Nor will the dividends be proportionally reduced, as a large proportion of the recently finished lines has been completed at a greatly reduced cost. The Chronicle says:—

"From our official returns, it appears that the amount of traffic for the last week on 3,663 miles of railway, was £175,472, thus accounted for:—£86,385 for the conveyance of passengers only, £44,942 for the carriage of goods, and a remainder of £44,145 for passengers and goods together, not respectively apportioned; being an increase of £14,536 over the corresponding week of last year, when the mileage was 2,813. The average earnings per mile last week were £48, whilst in 1847 they were £57.

Working Expenses on Railways.

We find the following comparative statement of the working expenses on traffic on four English railways, in a report of a committee raised by the London, Brighton, and South Coast railway company, made on the 13th of April last. The duties of this committee were various, but this does not appear to have been included, yet they say:—

"The committee have thought it their duty to inquire minutely into the working expenses, and to institute a comparison between those of the Brighton and of other lines similarly situated, for three years ending the 31st of December, 1847. The working expenses of the Brighton line for the last year are certainly much above the average; but even these do not greatly exceed the averages of the South Western, and Eastern Counties lines for the three years, and the general average of the Brighton will be found much less than those of the two lines just mentioned, although not so low as that of the South Eastern, as will be seen in the following table:—

Per centage of Working Expenses on Traffic.

	1845.	1846.	1847.	Average
South Western	34·49	39·11	42 75	39·74
Eastern Counties	38·88	34·96	36·26	36·70
Brighton	28·11	31·55	39·39	33·01
South Eastern	32·46	29·39	28·62	30·15

"In connexion with this subject, the committee examined into the state of the plant, and ascertained that the company's stock of engines, carriages, trucks, and wagons, including those contracted for, which form an item in the statement of liabilities, will be amply sufficient to work the existing mileage. The present number of engines is 97, of which 67 are in sound working order, 18 are under repair and alterations, and 12 are to be repaired and altered. The new engines, being of greatly increased power, will replace some of the present stock, which will be disposed of, and there will consequently be a considerable reduction in the above item. If the plant, when so completed, be fairly kept up, there will be no occasion for further outlay of capital under this head. The committee have taken into consideration the office filled by Mr. P. Clarke, and fully admitting his abilities and knowledge of railway business, they are, nevertheless, of opinion that there should be an efficient head of each department, who should be immediately responsible to the directors; and that it is undesirable that any one servant should interfere with the management of every other department, thereby destroying the responsibility of the officers so interfered with, and impairing the efficiency of the board itself. The Lewe station is an illustration of this mischief arising from such interference. This station, as originally designed, would have been parallel to the main line, which is obviously the proper position; but Mr. Clarke was permitted to take the matter out of the hands of the engineer, and to build the station on its present inconvenient site, and that, too, at a cost far beyond the original estimate."

Possibly other companies may find it for their interest to adopt the last suggestion of the committee, and not lay too much responsibility upon, or require too much labor of, those charged with the management of their affairs.

Locomotive Engines.--Rogers, Ketchum, & Grosvenor, Patterson, N. J.

When on a visit to New York last week, we made a short visit to Patterson, and while there spent a couple of hours in passing through the different shops of Messrs Rogers, Ketchum, & Grosvenor's locomotive establishment.

On inquiring at the office for Mr. Rogers, who has the principal direction of the business, we were told that he was in one of the shops, and after a little time we found him mounted on the fore part of an immense 10 wheel locomotive—weighing 24 tons, built for the New York and Erie railroad—superintending the fitting of the valves to the cylinders. So intent was he upon the important and delicate job in hand that we deemed it improper to disturb him, and therefore availing ourself of the range of the premises given us, we strolled first through the main locomotive shop, where we found eight engines in progress of construction, and one only vacant stand. Of those in progress two were nearly completed, viz:—one six wheel engine, with six feet drivers—a beautiful machine—for the Mansfield and Sandusky, Ohio, railroad—and a *ten* wheel engine, with *six five* foot drivers. This is one of the largest class, and most beautiful engines ever built in this country, and being of six foot gauge, there is ample room to arrange its machinery without crowding it.

Two or three others were far advanced towards completion, while others were in different stages of progress—but we saw none remaining about the shop that were completed, which shows that the demand is *fully equal* to the supply, and that the reputation of the engines from this manufactory are second to none made in the country.

After looking through the different shops, we came to the conclusion that, in labor-saving machinery this establishment is in no way behind its competitors, either in this city or in Boston; yet we thought of one beautifully operating implement which they ought to have, viz: "*Kirk's steam hammer,*" for forging their great variety of articles from a locomotive *axle* and *frame* down to a cotton spindle—and almost to a darning needle. They would, we are quite sure, find it an improvement upon their *tilt* hammer—a very good one though it be.

The following account of the performance of an engine from this shop is from the Sandusky city Daily Mirror of 12th of May.

"*Big Load.*—The engine named 'Licking,' built by Messrs. Rogers, Ketchum, & Grosvenor, of Patterson, N. J., for the Mansfield and Sandusky City railroad company, came in yesterday with a train about 650 feet long, of 51 loaded cars; the tonnage of which (cars and freight,) was about 380 tons. Adding engine and tender, with wood and water, which she drew up 16 feet grades, with 110 pounds of steam, with perfect ease. This engine was built expressly to order, has single drivers, six feet in diameter, placed behind the fire box. Her construction is less complicated than other engines of her class, and can make great speed if required, and never fails to make a requisite supply of steam. She has been in service about one year. In oil and repairs her expense is about one-half less than those of our double driver engines."

Railway Sleepers Improved.

We find, in the Artizan for May, a description of Mr. Fred. Busse's invention for making railway sleepers. We give a short extract from the description, as follows, viz:

"My sleepers," says the patentee, "are manufactured by hand, just on the spot where they are to be wanted. I have cast sleepers according to my invention, 8 feet long, 14 inches broad at the base, at an outlay of less than one Prussian dollar, (three shillings sterling,) the piece.

"The principle of my invention is to enclose a frame of entirely dry wood, air tight, in a substance which is not affected by the influences of wet and air, it being the result of experience that under such circumstances the wood will not be destroyed at all, or at least will last far longer. The method after which I build, and compose the said sleepers is as follows, viz:—

"I take two pieces of wood, dried to the highest degree by artificial heat in a stove. Immediately after drying, I dip those pieces in a boiling of ten pounds of brimstone, one hundred pounds of coal tar, to which I add eighty pounds of very fine powder of caustic lime. This done, I scratch or take off with a knife the superfluous compound, leaving only a thin coating on the wood. The pieces of wood thus prepared are brought anywhere along the line of railway where coarse gravel is to be found; it may be taken out of the soil, or from a river. The latter is the best, having less earthy matter. The gravel mixed with fine or coarse sand, or small stones—the latter to an inch in diameter—ought to be dried, or rather heated, before used. The wooden frame is placed, the top side to the bottom, in a conical iron, or wooden mould—the latter is to be preferred—which is to be filled up with the compound, which I call *terresin*, and which is prepared as follows, viz:—I take an iron vessel, large enough to hold a quantity of *terresin* sufficient for three sleepers. I melt ten pounds of brimstone, add seventy-five pounds of stiff coal tar, and mix it by stirring with one hundred pounds fine powder of well dried, fresh burnt caustic lime, slacked in the air, or with a little water. * * * To this compound add, always stirring and turning the mass over a gentle fire, ten or twelve cubic feet of that before mentioned heated gravel, and fill, or rather ram the thick hot compound into the moulds, in which the frames are placed. The moulds must be well heated with clay, and fine ashes sifted over it to prevent the adhering of the compound to the mould."

This is the process of making the sleeper—which he says will weigh about four hundred pounds when done. It may be a very good sleeper, but it will be found expensive and difficult to handle.

Dublin and Kingstown Railway Report.

We have occasionally given the report of this company, by way of illustrating the advantages of railways, in connection with large cities, to the *laboring* people, and their profit to the shareholders, when properly managed to accommodate the masses at reasonable rates. Here is a road of about seven miles in length, from Dublin to Kingstown and Dalkey—which is managed especially to accommodate the *laboring* portion of the people, as well as those who have leisure. Hundreds who labor in Dublin live at Kingstown, or along the line of the road, and others living in the city are often employed out of it—and the trains are so arranged as to accommodate this class of persons, *both early and late*, and at very low rates of fare.

So might it be in the vicinity of New York and Philadelphia, if the companies would devise plans by which little settlements would be formed along the line, and a *certain* and *cheap* means of reaching them established. The report is as follows, viz:

The sixteenth annual meeting of the above railway company was held on Saturday, April 15th.

Joseph Kincaid, Esq., having taken the chair,

Mr. Pim read the following report of the directors.

"In pursuance of the declared intentions of the board, in their report to the last half-yearly general meeting, they now submit a statement of accounts for the 12 months ending the 29th February, together with the usual statistical returns.

Number of passengers booked at all the stations			1,582,182
Last year			1,668,650
Decrease			86,468
Estimated trips by subscribers			645,964
Last year			635,260
Increase			10,704
Gross number of passengers, subscribers included			2,228,146
Last year			2,303,910
Decrease			75,764
Subscriptions received	£7,984	6	3
Last year	7,901	0	10
Increase	83	4	5
Gross income from all sources	51,740	3	10
Last year	54,053	0	10
Decrease	£2,312	17	0

Classification of passengers for the last seven years, including subscribers.

Years ending last day of February.	First class.	Second class.	Third class	General total.
1842	37,001	840,116	754,968	1,632,085
1843	68,156	960,936	729,788	1,758,878
1844	98,076	1,047,266	814,733	1,962,051
1845	104,109	1,219,856	910,768	2,234,433
1846	141,911	1,235,524	913,178	2,348,613
1847	152,389	1,304,798	846,723	2,303,910
1848	164,666	1,280,081	783,399	2,228,146

	1845.	1845.	1847.	1848.
Trains dispatched.	30,745.	30,970.	32,479.	32,096
Miles travelled	184,470.	185,820.	194,874.	192,570
Av. coaches pr train	7·511.	7·550.	7·383.	6·990
Av. passengers, do.	72,676.	75·830.	70·935.	69·433
Consumption of coke per train pr mile	lbs. 24·220.	lbs. 26·740.	lbs. 28·503.	lbs. 28·766
Average receipts per passenger pr mile	pence. 0·893.	pence. 0·883.	pence. 0·898.	pence. 0·888

Total expense per train per mile.

Dublin and Kingstown line, (including all charges of establishment)			3 2¼
Dublin and Kingstown, (exclusive of direction, office expenses, taxes and baths)			2 7¼
Kingstown and Dalkey line (all charges)			1 1¼
Third-class morning tickets, year ending February,			
1842			30,514
1843			37,310
1844			116,920
1845			174,802
1846			192,154
1847			180,356
1848			178,651

"It is cause of great regret to the board again to have to announce a considerable falling off in the revenues of the company, but you will have been prepared to expect this from the published weekly statements. It will, however be satisfactory to you to be informed that, since the 1st February last, there has been a progressive improvement in the receipts as compared with the corresponding portion of the previous year; and it is also satisfactory to observe that, notwithstanding the general depression, the subscriptions for the last year have amounted to a greater sum that has been received in any previous one. * * * * *

"There is, however, one source of large expenditure which is not within the control of the board: the rates and taxes during the past year have been £2,643, being £1,540 more than the previous year. This increase, added to the deficiency of income, amounts to £3,852, being more than 1¼ per cent. on the paid up capital.

"The Dalkey line has been worked with great regularity; the working expenses have been considerably reduced.

"The Waterford, Wexford, Wicklow and Dublin railway company have brought a bill into parliament, to legalize and confirm the amicable arrangements with them, reported to you at last half-yearly meeting.

"The balance of the profit and loss account, applicable to dividends, is £7,488 5s. 7d.: and the board declares a dividend for the half year of £3 per cent. on the paid up capital of £245,000, amounting to £7,350, which will be payable on and after the 1st May."

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 30th May, and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	7,459 05	44,571 18
By Room Run	3,848 04	28,092 00
By Hazleton	3,160 00	18,336 00
By Beaver Meadow	*2,950 00	17,184 00
By Spring Mountain	1,662 11	12,663 19
By Buck Mountain	2,760 12	14,855 09
Total	21,840 12.	135,703 06

* The amount shipped last week should have been 2,050 tons, and not 1,050, as printed.

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 1st inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	13,182 01
" Pottsville	4,410 09
" Port Carbon	9,472 12
" Port Clinton	4,139 16
Total this week	31,204 18
Total this year	454,219 19

The amount of coal brought to market by the Schuylkill canal during the week ending the 1st inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	11,510 15
" Schuylkill Haven	3,574 00
" Port Clinton	000 00
Total this week	15,084 15
Total this year	99,651 02

Recapitulation.—Total Shipments this Season.

By Lehigh companies	135,703 06
By Reading railroad	454,219 19
By Schuylkill canal	99,651 02
Total	689,574 07

Pennsylvania Railroad.

The Pittsburg Gazette of 1st inst. gives the proceedings of a convention of delegates from the different districts, composing the county of Allegheny, held at Pittsburg on the 31st ult., in relation to the Pennsylvania railroad.

It says, "the meeting was called to order by Geo. Darsie, Esq., who nominated for president the Hon. Judge Grier. The following gentlemen were named as vice presidents—Samuel Jones, Esq., of Pittsburg, and R. H. Porter, of East Deer; with Jesse Carothers and —— Meades, as secretaries.

"The following letter, from S. V. Merrick, Esq., president of the Pennsylvania railroad company, was presented to the chairman of the convention, by Judge Wilkins, and read by the secretary:

To the President of the Railroad Convention of Allegheny County.

"Sir—In transmitting to you the inclosed resolutions of the directors of the Pennsylvania railroad company, in which I am authorized to assure the commissioners of the county of Allegheny that the supplement to their act of incorporation, approved 27th of March, 1848, has been duly accepted by the stockholders of that company, and that, under its provisions, the six per cent. bonds of the county of Allegheny will be accepted in payment of stock subscribed by them; and that an interest of 6 per cent. per annum will be paid to all stockholders, until the road is completed. It may not be improper in me—and may be satisfactory to the convention—briefly to state the intentions of the board in case a subscription of twenty thousand shares is made by the county commissioners, under the sanction of the convention.

"When the Pennsylvania railroad was projected, it was conceived by its friends to be too large an undertaking to be completed by individual means, and at the same time that it partook so much of the character of a great public work, as to warrant assistance from the common fund. In this view, the city of Philadelphia, in its corporate capacity, determined to lend its aid, and subscribed twenty thousand shares, to take effect when a similar amount was had from other sources; and authorized an additional subscription of twenty thousand shares, whenever a further subscription to that extent should be made in aid of the work.

"The original amount, now reaching thirty-two thousand shares, has been devoted exclusively to the road on the eastern side of the Allegheny, and which, with the funds daily being added by private subscription, will, in ample time, be adequate to the object.

"At that time, the policy of the board was to complete the eastern section, in connection with the State railroads, so as to form a continuous line, with as little delay, and to as great an extent as possible, and await the effect produced upon public opinion, by the success of that portion, before soliciting funds for its continuance west—having early determined to incur no debt, but build the road upon its legitimate receipts from stockholders.

"The directors were induced to this determination, from viewing the disastrous effects which usually followed attempts at the construction of public works upon credit, without adequate means for the object.

"This policy would still be pursued, if Philadelphia was left to her own resources to complete the road; but, in considering the subject in all its bearings, the directors feel that they were playing for a great stake—no less than the unrivalled railroad trade of the Ohio and the far west—and in view of the exertions making by another company to reach the Ohio at an early period, they would not be doing justice to their trust if they did not strain every nerve for the rapid completion of the western section, which alone would secure that trade.

"With this object in view, it was determined to appeal to Allegheny county, in its corporate capacity, to furnish such a sum as would, with the amount conditionally subscribed by the city of Philadelphia, and unappropriated, warrant them in placing the western section under contract as soon as the surveys were completed.

"Hence, in August last I was directed to address a letter to the citizens of this county, urging their

subscription, in which I stated—'That the million subscribed would, under the provisions of the ordinance, (already passed,) draw another million from the treasury of the city of Philadelphia; and these two millions shall be exclusively devoted to the western division, which will be urged as fast as the nature of the country will admit.'

"The motive, therefore, for your subscription, is to secure to the county of Allegheny the whole western railroad trade, by enabling the board to finish this end of the line in a period so short as to defy competition; and to this end the whole of your subscription, and an equal amount from the city of Philadelphia, is distinctly pledged by the directors.

"You will permit me to hope that the prompt action of the convention will enable them to secure this great object, and place the company in a position which will warrant an immediate call upon private subscriptions to fill up the stock to the ultimate limits required for the completion of the road.

"I am, with great respect,

"S. V. Merrick, President of Pa. Railroad Company.

"After the credentials of the delegates had been received, Judge Wilkins addressed the convention in a very forcible speech. He contended that the day had come when the stand-still policy must be abandoned. Our neighboring States had determined to act, and secure the trade of the west; and if we would not be beaten, we must at once take hold of the work in hand, and urge it to a successful termination—thus defeating all competition. The importance of internal improvements was strongly shown, he said, by the growth of the city of Buffalo. That beautiful city, the equal of Pittsburg in population, in 1812 had not an existence; yet she was now a monument to testify to the benefits of internal improvements. Indeed, so important was internal improvements, that he would say, that next to Christianity and education, nothing was so essential to the developement and success of a country as the adoption of the system of internal improvements. He then went on to show the advantages of position and distances the central route possessed, and showed most clearly that it was not a question of enterprise, but rather of self-defence. Virginia, Maryland, and New York, were at work, and did we not move now, we should hear on the north and south the puff of the steam horse scoffing at our stand-still policy, and reminding us that others had reaped the harvest offered us, and which we lacked the enterprse to grasp, when presented. The remarks of Judge Wilkins were frequently interrupted by indisposition, which increased so rapidly that he was obliged to desist. Before he closed, however, he made some remarks to his friends from the country, who, he thought, were under a misapprehenslon in regard to the effect of this county subscription. He most earnestly and honestly assured them, that in no event would a tax be called for; and that their true interests required and demanded the subscription. He had prepared a series of resolutions, but was unable to read them; but James S. Craft, Esq., proceeded to read the following for him:

"*Resolved*, That the commissioners of the county of Allegheny, in the commonwealth of Pennsylvania, be advised and requested to subscribe twenty thousand shares to the capital stock of the Pennsylvania railroad company, agreeably to the provisions of the act of assembly, passed on the 27th day of March, 1848, and for which they shall issue the county bonds to be redeemed not before the expiration of thirty years; and in such sums as may be agreed upon by the said county commissioners and the board of directors of the said railroad company.

"*Resolved*, That for the further security and safety of the said county of Allegheny, and the bond holders, and in addition to the legal obligations incurred in making said subscription, the stock so subscribed, together with the interest, earnings and dividends of the said road be pledged for the payment of the interest and final redemption of the said bonds; but, that nothing herein contained shall in any way impair or exchange the provisions contained in the second section of the aforesaid act of assembly, making it obligatory on the said company to pay the interest on the amount of the said stock 'until the said road shall be completed,' and afterwards to apply towards the same, the profits and dividends of the said road, for the purpose of indemnifying the said county.

"*Resolved*, That before the aforesaid subscription shall be made by the county commissioners, they shall require the said railroad company, permanently and finally, to establish the terminus of the said road within the city of Pittsburg.

"*Resolved*, That upon the aforesaid subscription being made by the county commissioners, the amount thereof, together with the additional sum of one million of dollars, shall be expended by the said railroad company in the construction of this road from Pittsburg to the Allegheny mountains.

"*Resolved*, That a committee of three of this convention be appointed by the chair, to confer with the commissioners, as to the manner and form of the bonds to be subscribed by the county; and on such other questions as may arise, touching the issue, delivery and receipt for the same! The president appointed Wm. Wilkins, Neville B. Craig and Geo. Darsie, Esqs., the committee on the 5th resolution.

"A motion was made to adjourn, but not carried. W. W. Irwin moved to vote upon the resolutions at once, without an adjournment, as members were anxious to go home.

"The motion was renewed, but not agreed to, inasmuch as Judge Wilkins requested George Darsie Esq., to read some statistics, with which he proposed to close his remarks. When he had concluded, Judge Wilkins resumed his remarks, and in the strongest manner again assured the convention that the interests of the county could alone be saved by prompt aid to the road.

"Before the vote was taken upon the resolutions, Mr. Gibson requested leave to submit a resolution. Leave having been granted, he presented a resolution making a two-thirds vote necessary to sanction the resolution of Judge Wilkins. The design of the movement was to kill the whole question, and the convention refused to receive the resolution.—The ayes and nays were then called upon the resolutions, which were adopted, 50 to 38.

"A series of resolutions were offered by a member, approving of the Connellsville route, which were adopted without dissent.

"The proceedings of the meeting were directed to be published in all the papers of the county, and the meeting adjourned."

That there should have been opposition to this measure we are not at all surprised, as there were strenuous efforts made, by some of the wise and liberal ones of this city—when it was asked to subscribe to the same noble work—to defeat the measure; and because there are always, in every community, those who are opposed to all improvements, and especially to those which are the most important for the prosperity of the *business* community; yet we did not suppose there could be found in Allegheny county so large a proportion of intelligent men as 38 to 50, who would oppose a measure so vitally important to the community in which they lived. The measure was however carried, and the subscription made, as we learn by the following just, and eloquent, remarks of the editor of the Pittsburg Gazette. He says:

"*Railroad Subscription Authorised.*—It is with great pleasure, and in the full belief that the subscription will be a source of permanent profit, as well as of present good to the community, that we announce that the subscription of one million of dollars has been authorised by the delegates to the county convention. The opposition has been very decided, and no doubt very sincere, but the majority is large, and we believe the conclusion arrived at in accordance with the best judgment of the large body of tax payers in the county. We believe, too, that time will demonstrate not only the utility of the work, but that all opposition to it will be removed in the great good it will confer upon all classes and conditions of people. Under any circumstances the subscription was necessary to the business welfare of the county, and three years will convince every man of business of the city, and every farmer of the boroughs and townships, that the county has acted most judiciously in the aid now promised. We do not look for any increase of taxes in consequence of the subscription nor for any depreciation of public credit, or for any of the evils predicted.

"We feel that if Pittsburg would not be isolated from the world, that she should put her hand to the plough, and with an eye single to her future welfare, hasten to complete the road east, and to begin at once the prosecution of a western road. Both are as necessary to us as our coal beds, or the water in the rivers bordering upon our city. New York is seeking an avenue west, and so is Maryland and Virginia. It does not, therefore, become us to deliberate, when others act. Our exertions, until this hour have been neither of gold, or silver, nor lands, nor labor, but words—empty breath—idle declamation. We have showered down our anathamas upon one another, and headed each other long enough. Baltimore was the spring fever of 1847. Ohio was the summer fever of the year past, and in 1848 something has been done by the county to unite the west with the east, Now let our citizens off coats for a working season to unite us with the west. Both roads may be prosecuted at once, and both should be commenced forthwith."

These are the words of true wisdom and sterling patriotism.

Camden and Amboy Railroad.

Its Privileges and its Abuses.

We continue our extracts from the pamphlet of "a citizen of Burlington," commencing with his seventh letter, dated 3d March, in which he refers to the importance to New Jersey of the peach trade, and the difficulty of geuing them to market by this road, at prices, and in time to send them by the eastern evening steamboats to the numerous markets in New England. If the people of New Jersey saw the disadvantages under which they labor in consequence of having granted this monopoly, they would take active measures to get rid of it, even if they had to *purchase* back the privileges, at almost any price, granted to a company for a mere "mess of pottage." The writer says:—

"Of all the products of her soil, there is none by which this State should profit so largely as by that of the peach. She has hundreds of thousands of acres fitted for its production, and directly north of her are five millions of people by whom it is deemed a great luxury, and among whom there exists, in vast abundance, wealth enabling them to indulge their tastes. They are rich, and they grow daily richer, for *they have no monopolies.*

"The peach is an article that wil not keep. It must be eaten soon, or it decays, and the difference of even twelve hours in getting it to market may be the difference between great profit and almost total loss. New Jersey is close to that great market, which of right belongs to her. It would be her own, and all her own, *if she could get to it.*

"Delaware, too, raises peaches, but she is distant from this great market which to Jersey is close at hand. Delaware also has a market close at hand, in Philadelphia and its vicinity, into which not a Jersey peach would go, *if it could get to the north.* Under proper arrangements, every one of them would get there, and Delaware would have Phila-

delphia, and the country north and west of it to herself, and that is *her* natural market. Under such arrangements, the fruit gathered in Jersey on Monday morning could always be in Albany and Utica, New Haven, Hartford, and Springfield, Providence, Boston, and Portland, at dinner-time on Tuesday. Could it get there thus promptly, and cheaply, the consumption of the north would now be hundreds of thousands of baskets, speedily to rise to millions: and hundreds of thousands of acres of Jersey land that are now waste, would be in progress towards becoming flourishing orchards, yielding large revenues to their now poor owners. Existing farms and orchards would yield thrice the income that is now obtained, and by aid of the surplus thus obtained would these new lands be subdued to cultivation. Poor men would then be receiving good wages by aid of which they would buy lands whose crops would speedily make them rich.

"Why can the fruit of Jersey not travel thus speedily and cheaply? The answer may, I think, readily be given.

"The great monopoly has much to do. It has large taxes to collect and to distribute. It is the *farmer general* of the State, for which it collects transit duties upon men and things from abroad. It has no leisure to look after the business of its customers, or to regulate its trains to suit their wants, however much it may have for making regulations to suit its own, and those of the men who manage it. Its market train passes through Burlington in the afternoon, and that train carries peaches that reach New York next day at noon, and thus the fruit gathered on Monday is in that city at the very moment when it might be in Utica, or Portland, hundreds of miles further north. If gathered ripe, it is then unfit for further transportation, and it must be sold. It finds there the competition of Delaware, whose peaches can go to that market cheaply by sea, and do go there mainly because she is interfered with in Philadelphia by Jersey peaches that ought to have gone north. Both States are thus scrambling for the limited market that exists, and which is limited for no other reason than because the private interests of the Jersey monopoly forbid its extension. Prices are low, for fruit is abundant, and it will not keep. At such prices they are sold to hucksters, who retail the ripe ones, and send those which are unripe to Boston, at which place they arrive on Thursday. The Jerseyman thus loses all the advantage of his admirable position, and he remains poor when he might grow rich.

"For thus keeping fruit almost twenty-four hours in travelling about seventy miles, the company charges twenty cents per basket. From Goshen to New York, almost precisely the same distance, and on a road that has no through travel to support it, the charge would now be twelve, but if peaches were there, as here, a great article of commerce, they would be carried as cheaply as are now tomatoes, and pay but five cents per basket. I will, however, assume eight cents as the true price by the ordinary trains, and show what would be then the difference.

"The farmer of Burlington who has ten acres of peach trees may have 1,000 baskets, and for the freight of these he pays $200
From Goshen he would pay 80
Difference, being the amount of *transit duty*... 120

"Here we have an excess amounting to twelve dollars an acre. In consideration of paying this enormous tax, he is permitted to get his fruit to New York, there to be sold at a low price, or there to rot on his hands, when if competition were permitted, they could at the very same hour be in Western New York, Connecticut, Vermont, Massachusetts, and New Hampshire, there to be sold at high prices. If, now, to the excess of toll, the farmer add the difference between low prices and high ones, he will obtain a sum of *fifty dollars per acre as the transit duty* imposed upon him by a company to which he has granted a monopoly of the roads of the State, with a view to enable him to avoid the payment of a tax of about *one cent per acre*."

If the following intimation is correct—which we are unwilling to credit to its full extent—it would of itself be ample cause for the granting of other lines of road.

"The company runs a morning train for passengers. Three years since, as I am informed, a farmer of this vicinity, seeing no other mode of getting his peaches rapidly to Boston, applied for permission to send them by that train. The answer was, that 'it carried *no freight*.' He waited on the railroad kings themselves, and then, as a special favor, obtained permission to send twelve baskets per day, subject to the enormous charge of forty cents each, or more than one cent per pound. Travelling north, shortly afterwards, and arriving in the neighborhood of *the orchards said to belong to the railroad kings themselves*, he there saw, as the story goes, whole car loads of peaches, carefully packed and addressed to Boston, attached to the train that he had been assured *carried no freight!* From that day to this, as the story further goes, such has been the course of proceeding. He has sent twelve baskets per day, and they have sent car loads: perhaps even trains of cars, laden with fine ripe peaches, the produce of *their own orchards*."

The writer says, "the annual loss to the State from interferences with the peach trade alone, is *a million of dollars*, and I am well satisfied that even that estimate is far short of the mark.

"I would now ask the farmer what would be his course, if the difficulties which I have described resulted from a law of New York, by which a tax of 30, 40, or 50 cents was imposed upon his peaches? Would he not talk it over with his neighbors? Would he not urge the holding of township meetings? Would he not urge county meetings, and State meetings? Would not he and his neighbors pledge 'their lives, their fortunes, and their sacred honor,' to resist unto the death such gross injustice?

"All these things would they do if the injury came from abroad, but none of these things do they do when it arises under laws that their deputies have pretended to make, and which, *being unconstitutional, are utterly invalid and worthless*."

* * * * * *

"Their forefathers gave their time, their money, and their blood, to prevent the imposition of a tax upon tea that would have been paid by *one cent an acre* of the State. They sell themselves for a cent an acre, and quietly pay a tax of twenty, thirty, or fifty dollars an acre for the support of a grasping and rapacious monopoly that holds its existence at their mercy, because they cannot give even a single hour of their time to redeem themselves." * *

"Let them do as they would do if the oppression came from abroad. Let township call upon township, and county call upon county, for a convention of the State, composed of men determined to be free. Let them but determine that they *will* be free, and the work will then be done."

At the commencement of his eighth letter he says:

"Before entering upon the examination of the main subject of this letter, I desire to call your attention to an extraordinary and important fact, to wit: that in the month of February, in the year of our Lord one thousand eight hundred and forty-eight, the cheapest mode of transporting goods from Philadelphia to Burlington has been by wagon, on a bad road which runs side by side with a railroad, and has for much of the distance full in view a fine river free from ice, upon which steamboats might have run had the great monopoly permitted. The farmer will do well to calculate the extra cost of his sugar and coffee, because of the existence of a monopoly which thus compels men to use wagons instead of railroad cars, and see if he does not pay, *on them alone*, as much as his share of the transit duty.

"The 18th section of the charter of the railroad company authorizes the collection of tolls, provided, however, that there shall not be charged per ton '*more than eight cents per mile, for the transportation of every species of property*.' This is perfectly clear and explicit, and there is nowhere given any authority to demand or receive more than the rate here limited. The charter was granted on this and other conditions. On these conditions it was accepted by the company. If the compact has been violated, the State may, at any moment, on proof of the fact, declare the charter itself null and void, and from that hour ceases the power to collect tolls. Canal and railroads then become public property, and free for use by any and every set of men that may think proper to travel, or to transport produce or merchandise upon them.

"The distance of Burlington from New York is seventy-five miles. At eight cents per mile, a ton would be six dollars, which gives almost precisely *one quarter of a cent* per pound as the toll that may be charged '*on every species of property*.' This, too, is the highest limit, and it is fixed high with a view to cover the most valuable species of merchandise. It is far higher than is required for commodities of inferior value, as may be seen by a comparison with the tolls of the Erie railroad, which are but *one-eighth of a cent* on market produce.

"A basket of peas weighs about thirty pounds. At the legal rate, this would give eight cents as the rate of toll. The company charges twenty, being *two and a half times* the legal rate.

"A basket of peaches weighs thirty eight pounds. This would give ten cents. The company sometimes charges twenty, being *twice* the legal rate. At other times it charges forty, being *four times* that rate.

"A hundred pounds of pork pays thirty-five cents, or almost forty per cent. more than the legal rate. A hundred pounds of poultry pays forty cents, or sixty per cent above the legal rate. A hundred pounds of groceries pays fifty cents, or almost double the legal rate.

"Garden vegetables generally will average forty pounds, which will give about ten cents per basket. The company charges twenty, being double the legal rate." * * * * *

"It thus appears that the charges by means of which the fruit of the State has been shut out from the northern markets, have been entirely illegal, and therefore fraudulent: that those by which the produce of the gardens of Burlington and Gloucester has been driven into the markets of Philadelphia, there to be sold at low prices, or to rot on the hands of its producers, have been no less so: and that the course of action by which the company has inflicted upon the State loss to the amount of many millions of dollars has been in violation of the provisions of its charter.

"I limit myself now to an examination of the open infractions of the compact. The evasions of it may, I think, be shown to be almost innumerable. The more I examine the proceedings of the company, the more am I disposed to believe that it would be difficult to designate a single possible mode of evasion that has not been practised.

"The monopoly privilege of the company being unconstitutional and invalid, might at any time have been set aside, but the charter, by virtue of which it collects tolls, was, in all its other parts, binding upon the State, provided always that the company complied with the conditions upon which that charter was granted.

"It has not done so. It has violated them habitually, and during a long series of years; and it has done this to the enormous injury of the people of the State. By so doing it has placed it in their power to declare the charter null and void." * *

He says, "if, however, the people, in view of the fact that there are some few innocent stockholders—some few who, relying upon others, have been innocently involved in these transactions, and have taken no part themselves in these unceasing violations of the conditions of the charter—some few who have not speculated in peach orchards, or Trenton railroad stock—and desirous not to push the innocent with the guilty, should desire to be *lenient* to all, they might pursue another course. They might declare the charter null and void, and then make a new settlement with the company, requiring them to pay into the treasury a fixed sum equal to the amount now paid: *passing, at the same time, a general law for the making of both turnpikes and railroads*, and thus extinguishing for ever the monopoly, without interference with the revenues of the State.

"By the adoption of this course, the people would secure for themselves perfect freedom to make roads in every part of the State, leading to or from the great markets of the Union."

There can be little doubt, we imagine, of the truth of the closing remark of the above paragraph. Railroads would be made in almost every direction thro' the State, and the value of lands and property would be immensely enhanced.

He says, "New Jersey should be one of the richest States in the Union. Her position is admirable. She has every variety of soil. She has water pow-

ers in vast abundance. She has iron and copper ores. She wants nothing but good roads, and plenty of them, and these she can make more cheaply than any State in the Union; and she would have them made were it not that she is saddled with an unscrupulous monopoly, whose finger is everywhere—whose purse is large—whose accounts are unexamined, and are, as I believe, little likely to bear the scrutiny to which they may yet, perhaps, be subjected. * * * * Wherever it is desired to make a road, there is its finger seen—there are its wire-workers employed. Mount Holly wants a road from Camden. To kill it, a law must be obtained for one from that place to Burlington. Their object attained, their road sleeps the sleep of death. Flemington wants a road. That also is to be killed. Belvidere wants a road. That must be taken to their embrace, to be killed or not, at their pleasure.

"New Jersey is poor. New Jersey has few schools. New Jersey has few roads. New Jersey has little influence. If we would know why all these things are, it is necessary only to study her canal and railroad history, and compare it with that of Massachusetts. The one makes a trap for strangers that she may plunder them. The other makes numerous roads, that she may induce them to travel across her territory, and thus contribute to the formation of excellent roads for her own use. The one is an oligarchy. The other is a democracy. In the one the people are poor and uneducated. In the other they are rich and well instructed."

At the commencement of his ninth letter he says:

"One step has, at length, been taken. Your legislature have adopted a resolution having for its object the establishment of a line from Camden through New Brunswick, to New York, to run at convenient hours, and to charge but three dollars. Whether the monopoly will, or will not, see fit to do this, remains to be seen. Should they do so, the people of the various parts of the State will be enabled to exchange visits without being compelled to pass through Pennsylvania *for the sole purpose* of paying one dollar each for the unnecessary use of ten miles of road owned and controlled by the railroad kings, who have there established their great toll-gate for the collection of the dues payable by yourselves for the use of the right of way in your own State."

It appears, however, by an article which we read in the Newark Daily Advertiser, that the company put their own construction upon the resolution of the New Jersey legislature, and run the 1 P.M. train on the Camden and Amboy line all the way, instead of by the way of Trenton and New Brunswick.

French Railways and the Republic.

It appears that the French provisional government are disposed to "*absorb*" all the railways—without even asking the consent of the owners. It might as well absorb all the *vineyards*—and could as well manage *them* as the railways—and in taking possession of them, they would do no more injustice to the proprietors, nor any more to violate the laws of morality and justice, than in taking the railways without the consent of the shareholders.

If the government chooses to build all the railways desired hereafter, *that is another thing*—but it should beware how it gives just cause for the application to itself of the following, which heads *Herapath's* editorial on this subject. He says:—

"Whoever is inclined to rob,
Is seldom nice about the job!"

And we think he is pretty near right.

The following account of a meeting of parties interested in the railways, with M. Garnier Pages, shows the *disposition* of the government, but they *dare* not indulge it to the extent indicated here.

They had better attend to their *legitimate* duties, and leave the companies to manage the railways—they have quite enough to do to fulfil the expectations of the people without meddling with the railways, except to see that the companies perform *their* duties.

The proceedings were as follows, viz:—

On Wednesday, the 12th of April, M. Garnier Pages, the minister of finance, received a deputation, consisting of nearly sixty directors of the leading French railway companies.

The minister stated that, for various reasons, he thought it not only expedient, but absolutely necessary, that the State should take the railways into its own hands, that they might be more effectually under its control and protection. The chief of these reasons were the depredations which had been committed upon certain lines, the inability of directors to overcome the insubordination and exorbitant claims of the workmen, and the impossibility of certain unfinished lines obtaining sufficient funds for their completion. Under these circumstances, the minister proposed the following plans for the purchase of the railways by the State:—

"First.—The conversion of the shares at the actual price of this day, and payable in money.

"Secondly.—The same, payable in *rentes*, at the same actual price.

"Thirdly.—The conversion of the shares at the price of the half-monthly settlement of 15th of February, payable in *rentes* at the price of the same day.

"Fourthly.—The conversion of the shares into *rentes*, each taken at the average market price during the six months preceding the 15th of February.

"Fifthly.—Examination of the question whether the re-purchase should be on the basis of the amount actually paid up, or on the revenue actually yielded by the railway. This latter basis was obviously impossible in reference to those lines which are still only in course of construction. It was upon these points that he wished to obtain the opinions of the several companies, and he was now ready to give them earnest attention."

M. Mayard, for the Andrezieux, and Roanne, and other southern lines, stated that these reasons did not apply to the companies he represented, and they were also granted in perpetuity.

Count Deny Benoist doubted whether, supposing the terms were accepted, they could be carried out by a general meeting, if there were one dissentient shareholder.

Baron Paul de Richemont said, that the Orleans and Bordeaux was an Anglo-French company, and one-half of the shares held in England, under a solemn contract with the French nation. The English shareholders had no fear of spoliation, but they were fully satisfied to continue to fulfil their engagement towards the French nation, and the public, as they had hitherto done. The reasons of the minister did not apply to this company, and there was a cordial understanding between the directors and the workmen.

M. Leon Faucher expressed similar sentiments on the part of the Paris and Strasburg company.

There was a general disinclination to speak, or be drawn into a discussion, and the North line being called upon by name, the

Baron James Rothschild simply declared that he had no doubt the shareholders in that line would rather receive their 10 or 11 per cent. dividend from the company than be absorbed by the State.

No one else being disposed to speak in reply to the invitation of the minister, he declared the sitting at an end.

Direct Railroad from Syracuse to Rochester.

The following account of the proceedings of a meeting held at Rochester on the 18th of May, are from the Wayne Sentinel of the 24th. It appears from these proceedings, that the people interested are resolved to have a more direct line, than the present by the way of Auburn, Geneva and Canandaigua, to Rochester; and when this line is fairly under way, there will probably be renewed efforts in favor of the road from Rochester to Niagara Falls, thus making rival lines from Syracuse west—one by the falls through Canada, Michigan and Illinois, and the other to Buffalo and Erie, through Ohio, Indiana and Illinois, to St. Louis.

Whether there will be a rival line from Syracuse eastward to the Hudson, is yet a question; but of the construction of a road from Syracuse, south to Binghamton, or to some point in that vicinity, thus opening a communication with the New York and Erie, and the coal region of Pennsylvania, at an early day, we have no doubt. The Wayne Sentinel says:

The stock subscribers for the organization of a corporation to construct the proposed railroad, met at the Waverly House in the city of Rochester, pursuant to previous notice, on the 18th. Hon. Harvey Baldwin, of Syracuse, on motion of Judge Miller, was called to the chair; and on motion of P. Tucker, Hon. Samuel Miller of Rochester, and Wm. Clarke, Esq., of Lyons, were appointed secretaries.

The number in attendance was about 100—and the interest and confidence manifested in the contemplated work, were such as to augur well for its early completion. Upon this question there was but one opinion; and the proceedings and results of the meeting were throughout harmonious and satisfactory.

The preliminary stock subscriptions reported at the last meeting, were called for, and the 10 per cent. upon the same as required by law, was paid in by the subscribers, to Freeman Clarke, Esq., temporary treasurer.—Eight hundred and twenty-two shares, amounting to $82,200, were found to be thus taken—all, with a single exception, by gentlemen residing on the route of the proposed road, as stated below, viz:

At Rochester	$9,000
At Macedon	4,800
At Palmyra	9,700
At Marion	500
At Newark	3,000
At Lyons	8,500
At Clyde	2,000
At Port Byron	6,500
At Weedsport	500
At Jordan	10,200
At Canton	6,000
At Syracuse	16,000
At Baldwinsville	500
At Troy	5,000
Total	$82,200

The general railroad law provides for the subscription of $1,000 to the mile of a proposed road, and the payment thereon of 10 per cent., as a pre-requisite to the organiza-

tion of a company possessing the powers and privileges of a corporation. The length of the road from Syracuse to Rochester, will be less than 80 miles—Mr. Geddes, in his speech, estimates it at 74 miles—so it will be seen that the subscriptions already obtained exceed the required amount some $8,000. The entire capital stock of the company, as established in their articles of association, is $1,500,000.

The stockholders proceeded by ballot to the election of a temporary board of thirteen directors, as follows:—John Wilkinson, Orville W. Childs, T. T. Davis, Syracuse; E. A. Baldwin, Baldwinsville; J. M'Clure, Jordan; E. P. Ross, Port Byron; Aaron Griswold, Clyde; Daniel Chapman, Lyons; G. W. Cuyler, Palmyra; Freeman Clark, Samuel Miller, E. S. Beach, Rochester; Alanson Douglas, Troy.

The following gentlemen were chosen commissioners to open books of subscription to the capital stock of the company, and perform other duties provided by law, viz:—Thomas W. Olcott. Albany; Alfred Munson, Utica; James R. Lawrence, Syracuse; Oliver H. Palmer, Palmyra; Everard Peck, Rochester.

The articles of association of the corporation, as reported by the committee previously appointed, were then adopted and signed by the several stockholders, to be filed in the office of the secretary of State.

A committee of directors, consisting of Messrs. Wilkinson, Childs, and Davis, of Syracuse, were appointed to report by-laws for the government of the company, at the next meeting of the directors.

The directors are to meet at Lyons on Tuesday, the 6th of June next, for the purpose of a formal organization of their board, by the choice of a president and engineer, and to take any action in regard to the business of the company that may be deemed proper.

The books for subscriptions to the capital stock will be immediately opened by the commissioners, giving to all who desire to make an investment, an opportunity of doing so. With the amount already paid in, the surveys, plans, etc., can be carried forward, as soon as the engineer shall be appointed.

Present State of Railway Property in England, and a Hint to Government.

The following views of the editor of Herapath's Railway Journal, on the present—1st April, 1848.—aspect of affairs in Europe, and their influence upon railway property in Great Britain, may be of interest to some of our readers. He says:—

We have never claimed to be infallible, though we think we may lay claim to have been found much oftener right than wrong. The reason is very simple. We collect all the best facts we can, and from a careful mixing and sifting of them, endeavor to elicit causes which shall indicate the future current of affairs. For, unless where such extraordinary things pop in as the French revolution to disturb the even rolling out of effects from causes, we are inclined to believe that a pretty sure guess may be made of the future from the present without much pretension to the gift of prophecy. That is, indeed, the whole secret of our former pre-science. Upon that we form our present belief or prediction, if the reader like it better, that the funds and railway property will ere long take a turn upwards. For if we look at the vast quantity of money already accumulated in our bank of England, and the unsettled state of the continental nations, we cannot help thinking that we may yet have a greater influx of money. People will send their money and property to that country, be it England or not, where they are most likely to be safe. We have proof of this, as mentioned by us a fortnight ago in our city article, in the numerous and daily arrivals of goods from France, which are consigned to all sorts of persons, rather than allow them to remain in so unsettled a country. It is the same with the money. No man considers himself safe in France with money, or that which may be easily converted into money's worth. Similar may be said of the other States, notwithstanding their present apparently peaceable position. Hence, while we continue quiet in this country, and at peace with other countries, we think we may fairly look forward to an accumulation of money in England. The consequence will, we think, be numerous and large money purchases into the funds, and a gradual rise, with, however, some checks and fluctuations.

We take this view upon the supposition that England has the prudent and resolute to remain at peace, and that our rulers have the firmness to keep clear of dangerous treaties, except treaties of peace, with continental powers. We do not consider whether the continental powers go to war or not. Tho' it may affect us at first, yet as soon as it is clearly seen that we are not to be embroiled, their quarrels would rather tend to benefit than to injure us.

Should the funds rise, the railways will naturally go up with them, if not in so rapid a degree, at least in some degree. For men will begin to look about them for better interest, as soon as the funds reach a certain point, and the calmness of our affairs restores a little confidence. It is, therefore, of the utmost importance to us to be quiet and contented with out lot. Nothing, indeed, but injudicious measures on the part of the minister, in straining the cord of taxation too tightly, can disturb us. We may have a few disturbances, or attempts at them; but England, as a nation, is not disposed to try wild republican principles.

What particular classes of shares will be most benefitted is difficult to say. Probably lines in actual operation, where the calls are concluded, and something of the dividend is known, will first feel, and it may be, most feel the advantage. In these unsettled times, men hardly like to have liabilities impending over them.

Provided France continue her present placid condition, and find the necessary oil to lubricate the State machinery and keep it in motion, it is not at all unlikely but French shares, which are awfully depressed, may take a considerable start upwards.

What we have here said relates to the next four or five months only, and not to any very distant period. We are of opinion, with many others, that France cannot long continue under her present form of government, though her rulers are doing, and will, no doubt, do all in their power to preserve order and respect property. She is too far advanced in civilization to be long governed as a republic. We, therefore, at no distant day, look forward to some new convulsion in that country.

Moreover, the dissatisfaction spreading into other countries, and the large armed forces kept up by Russia and Austria, render it probable that an outbreak of some kind may take place, and involve the European countries in war. That may not happen yet; but we should not like to take the odds for peace for twelve months, or perhaps for six. Should the French revolution, contrary to the expectation of all thinking men, work well, the natural love of change may prompt other countries to follow the perilous example, which would immediately kindle an extensive, if not a general war. In this country we hope and believe there is good sense enough in the great body of the people to keep out of any such experiments, which both ancient and modern history shows, have ended in military despotism, ruinous to commerce, and ten times worse for the people than any legitimate monarchy.

Our railways will doubtlets be influenced, more or less, by the kind of harvest we may have. If it be a fine one, and well got in, it will help to raise the value of railway property, and the contrary, if it be a backward and wet harvest. We do not profess to be weather-wise; but, judging from the springs and summers of a few past years, and the present season, so far as it has advanced, a moist summer is not unlikely. However, there is so much excellent corn from last year as to leave no apprehensions of a scarcity. We, therefore, do not think that the harvest will have any material prejudice on railways; though, if it turn out a good one, and is well saved, it may considerably aid their market price.

Calmly looking over the present position of affairs, we expect an improvement in the funds, and in railway property, for the next five or six months. Our reasons for it we give, and our readers must weigh and judge of their value themselves With regard to railways, we might add to our reasons for an expected advance, the very disproportionably low rates at which they stand.

If anything, the next winter is that to be dreaded. During the summer there will be little difficulty in procuring work, but when the winter comes on it will be another affair. There is, however, happily within our reach, the means of finding employment for large numbers of men on works of great reproductive value. We allude, of course, to the railways. Thank God we are not obliged to see our laborers starving for the want of work, or to maintain them in idleness at the expense of the industrious. The railways, as discussed in our last, afford an ample

field for employment, if our rulers will deign to cultivate it. There is no necessity for the State to spend its money, but simply to lend its credit—or offer to lend it, which, doubtless, would effect the same object—for a short period. If this be done, it will not simply give employment to many thousands of hands, and aid these great works now lying idle, by bringing them into earlier profitable operation, but it will raise the price of railway property, and enable the weak holder to get out of what he cannot go on with, or sell, except at a ruinous loss.

Much, therefore, will depend on the prudence of ministers, in keeping our country internally quiet. Happily, railways furnish the means of doing so without expense, and if the opportunity is not embraced, we shall deeply lament it. We should like to see the government turn its attention to this subject at once, and not wait to be driven into it by circumstances. The weather in the winter may prevent employment. If men, therefore, can provide in sunshine for a rainy day, it would be all the better; and it would be wise to encourage and assist them to do so.

Resistance to Railway Trains.

Mr. D. Gooch, of the Great Western railway, England, read before the Institution of Civil Engineers on the 18th April, a paper on the "*resistances to railway trains at different velocities.*" Although the paper is not given in full, yet the following synopsis will, we think, be interesting to our readers, therefore we give it, and shall, hereafter, if we can obtain the article entire, give it a place in the Journal, as we believe we have much yet to learn on this subject, not only in this country, but also in England.

Institution of Civil Engineers.—April 18.—*General Meeting.*—Mr. J. Field, President, in the chair.—The paper of the evening was a series of "observations on the resistances to railway trains at different velocities," by Mr. D. Gooch, of the Great Western. For the purpose of performing the experiments, a dynamometer carriage was constructed at Swindon, in which all the results required were registered upon a large scale, on the same roll of paper, thus exhibiting at one view, and in the same period of time, the tractive power exerted upon the train, and the force and direction of the wind; the registration of the results was made upon the paper at every sixteenth part of a mile, and the time was registered in correspondence with the distance traversed during every fifth part of a second. The dynamometer spring used was 7 feet 6 inches long, and very carefully arranged. It was only necessary to count the number of seconds, or fractions of a second, in one or more of the distance divisions, and the speed was accurately ascertained. The force and direction of the wind was ascertained by a wind gauge, placed 5 feet above the top of the carriage, with the connections brought down to pencils which indicated on the same sheet all the results. Indicator cards were also taken simultaneously from the steam cylinders as frequently as was practicable, but not continuously, as it was a service of some danger, the experimentor being obliged to sit on the buffer-beam of the engine at a velocity of 60 miles per hour, and in that windy position to take off four sets of cards in three quarters of a minute. The spot selected for performing the experiments was one mile of railway perfectly straight and level, and nearly on the surface of the ground; and in the plan the height of the trees, hedges, and every intervening object which could affect the influence of the wind is clearly marked. The experimental train consisted of first and second class carriages, each on six wheels, 4 feet diameter, taken indiscriminately from the working stock, and loaded with iron to represent a fair load of passengers, giving a gross weight for each of ten tons. The experiments were tried with various weights and speeds up to 100 tons, and to 62 miles per hour, and the results were classified and arranged in a tabular form, with copious explanatory headings, so as to render reference to them exceedingly easy. The author first reviewed the deductions of Mr. Wyndham Harding's formula, which was given at the discussion at the institute in 1846, and gave his reasons for dissenting from that formula. He then examined critically several experiments recorded in the tables, stating candidly all the exceptions that could be taken to them; showing that although there was a difference of as much as 52 per cent. shown between the resistance as calculated by Mr. Harding's formula and the experiments made by Mr. Gooch, that difference might be accounted for by the methods employed by Mr. Harding, which were objected to, as calculated to produce erroneous results, viz: allowing carriages to run down inclines by their own gravity, using wheels of 3 feet diameter instead of 4 feet, having a much greater length of train for the wind to act upon, etc. He reviewed the great effect of a side wind against a train—driving the flanches of the wheels against the rails; and argued that the length of a train of carriages was much more important than its own weight. The author did not offer any formula that should be applicable for calculating the resistance of all railway trains; but his tables gave examples of almost every case that could occur, and thence data could be supplied for those who wished to carry the investigation further, and make a formula for themselves. He arrived at the conclusion that in practice the friction of the axle journals was not a constant quantity at all speeds, and thought that the number and diameter of the wheels in a train, in proportion to the weight, should form elements in any general formula. He showed by experiments that the total atmospheric resistance to a train weighing 50 tons differed but slightly from that to a train of 100 tons weight, if the carriages were small, and the train long in the one case, and the reverse in the other case. The general result of the diagram of resistance with trains of 100 tons, and with 50 tons, showed that the resistance calculated by the narrow gauge formula with a 50 ton train, at 62½ miles per hour, was 37 pound; with a train of 100 tons, by the same formula, at 61 miles, it was 31½ pounds. The broad gauge resistance, with a train weighing 50 tons, at 62½ miles per hour, was under 23 pounds; and with a train weighing 100 tons, at 61½ miles per hour, was 22½ pounds. We cannot, of course, give fully the results, except in a comprehensive form, but such were the general results. The author concluded his paper by saying that it appeared to him necessary, before any general formula for calculating the resistances to railway trains could be made, that the value of the following elements, necessary in such formula, should be determined by experiments:—1. The axle journal friction, at different velocities and at different weights, per square inch of journal surface. 2. The resistance to the rotation of the wheels and axles per pair, at different velocities and with different diameters. 3. The resistance due to the rolling of the wheels upon the rails, with different weights upon them, and with different diameters. 4. The resistance due to the passage of the train through the atmosphere, at different velocities, with different proportions of weight, and length and breadth of train. 5. The resistance due to oscillation or unsteady motion of the train, at various speeds. The author considers that all these values might be determined with a considerable degree of accuracy, by careful experiment.

On the Strength of Materials.

Mr. Buchanan, president of the "*Scottish Society of Arts,*" read before the society, at their general meeting on the 20th of February, the following paper "on the strength of materials, particularly cast iron, and malleable iron, and their application in the construction of railway bridges. He says:

"Although many of the facts have been previously presented to our readers, the whole paper is one of so highly interesting a character that we present it in its complete shape. The subject was illustrated by various experiments and models, more particularly a large model, with drawings and elevations of the high level bridge across the Tyne at Newcastle, which, through the liberality of Mr. R. Stevenson, the engineer of the bridge, Mr. Buchanan was enabled to exhibit, and explain the situation, extent and construction of this great work in all its details. The Scottish Railway Gazette thus sets forth the proceedings.

"Mr. Buchanan said he did not profess to communicate anything new or original, but would be happy if he could only draw from the stores of information which had of late years been accumulating on this subject, under the hands of very eminent scientific and practical men, such leading facts and maxims as might prove a sure guide for practice.—The various strains might all be reduced to two kinds, according as the material is either distended or compressed by any force or pressure. From these two all others arise, and either consist or are compounded of them.—The tensile strain is the simplest of all, depending neither on the peculiar form of the materials, nor even on the length, but only on the single element, viz: the section of fracture. This peculiarity of the tensile force was explained and illustrated. In regard to cast iron, the result of the extensive and inte-

resting experiments of Messrs. Hodgkinson and Fairbairn was given, and it was found from the mean of 16 different trials of English, Welsh and Scotch iron, both hot and cold blast, that this material will sustain about 7½ tons per square inch before breaking, the weakest specimen being 6 and strongest 9¾. The limit of fracture, however, can never be approached with safety, nor even within a long distance, seeing that this material is liable to unseen imperfections, and above all, to snap in a moment without distending itself, or giving any warning of danger.

Malleable iron, again, is much superior in tensile strength, and, by its remarkable ductility, inspires confidence in a still higher degree; bears no less at an average, by various experiments from Telford and Brown, than 27 tons—the weakest 24, and the strongest 29 tons; but before the half of this load is applied, it begins to stretch, and continues stretching up to the limit of fracture. It is therefore not only three times stronger than cast iron, but may be safely loaded with five times the breaking weight, or about eight or nine tons. In regard to the strength of compression, this depends also, as long as the length is limited, on the same element—the section of fractures; but when a long rod or slender pillar is loaded or compressed, it is liable to bend, not for want of strength, but for want of stability, the least flecture turning it off its centre, and breaking it off by lateral force, deranging entirely the simple law applicable to short lengths.

"In regard to cast iron, by far the most satisfactory experiments are those by Hodgkinson and Fairbairn. The mean result gives very nearly 50 tons on the square inch—the weakest 36½ tons, and the strongest 60 tons. It is thus six times stronger in compression than in distension, and hence it is peculiarly recommended for sustaining any superincumbent weight, as in the case of pillars and of bridges, provided the construction is such as to resolve the strain arising from the load into a longitudinal compression. This is often in our power by proper arrangements chiefly giving a sufficient height and curvature to the arch; but in cases where, for the want of head room, the arch is unduly flattened or resolved into a straight beam or girder, the danger is that we bring the tensile force into play, and then the use of cast iron is objectionable, or at least requires extreme caution. No direct experiments have been made on malleable iron of short lengths, but from some facts brought out by Mr. Hodgkinson, its strength appears much inferior to cast iron chiefly from ductility, whereby it gives way much sooner under a load. It will bear 27 tons, probably much more, without fracture; but with 12 tons it yields to the load, contracts longitudinally, and swells out laterally; and this is another very important fact for our guidance in the use of those different materials. In regard to stone, experiments have been made on specimens rather too minute. Like cast iron, the crushing strength is superior to the tensile, and hence its adaptation for buildings, particularly bridges. Craigleith stone will bear 2½ tons on the inch, or upwards of 400 tons on the square foot; Aberdeen granite 600 tons. In regard to bricks, he had occasion to make experiments in relation to the great chimney of the Edinburgh gas works. It became matter of consideration whether the ordinary brick could withstand the pressure of so lofty a column.—Trials were therefore made with a powerful hydraulic press, not on small specimens, but on the actual brick. The ordinary stock brick was found to bear 140 tons on the square foot, and the common fire brick 157 tons; but the brick of which the chimney is constructed, consisting of a mixture of fire clay and iron stone, bore, a single brick on its bed, no less than 140 tons, equal to 400 tons on the square foot. The effect of the transverse strain was then considered and illustrated by various experiments and models. The strain is a compound of the tensile and compressive strain, the one part of a beam loaded in the middle being compressed and the other distended, and the beam itself becoming a lever, and acting often with enormous power against its own strength. Hence it became easy to calculate the strength, this being in every case proportional in the first instance to the area of the section of fracture, and this original element modified by the length and depth of the beam, diminishing in exact proportion to the length, and increasing in proportion to the depth. The transverse strain acting with such severe advantage against our materials, various methods have been contrived for eluding its effects, and for these none is more remarkable than the principle of the arch, the effect of which was illustrated by experiments and particularly the necessity in flat arches of having secure abutments to resist the horizontal thrust, and this was frequently accomplished where there is sufficient head room, by uniting the extremities of the arch by strong malleable iron rods, in the same manner as, in the case of the roof, the feet of the rafters are united and prevented from spreading by the tie beams; and this is the principle, the securest of all, on which the great iron bridge at Newcastle, now in progress, is constructed, the object of which is to cross the river and valley of the Tyne, on the highest level of the railways on each side, so as to unite them in an untirupted line from London to Berwick, and unite the termini of the different railways, now separated three quarters of a mile or more, into one grand central station, a little to the west of the ancient castle.

"The distance between the station and the present terminus of the York and Newcastle is 3,457 feet, consisting chiefly of the space occupied by the bed of the river Tyne, and the steep bank on each side, well known to travellers in descending from Gateshead Fell on the south, and Dean street on the north, both to be now superseded by the smooth and level surface of the railway, and by a turnpike road running on the same bridge directly under the line of rails. The steep banks on each side are spanned by stone arches of a very substantial character, the river and low banks by six metallic arches, all of the same dimensions and structure, resting on solid piers and lofty columns of masonry. In the bed of the river the piers are laid on very solid foundations of piles planking, with concrete, many of the piles 40 feet in length, and driven to this depth through hard gravel and sand till they reach a bed of freestone rock. Nasmyth's celebrated pile driver is in full operation here, and with wonderful effect, and has come most opportunely in aid of the work—driving night and day, at the rate of 60 or 70 strokes a minute, the pile heads being often set on fire by the rapidity and violence of the blows of the ram. Piers laid 2 feet below low water mark, and raised about 100 feet to the springing of the arches. The arches consist each of four main ribs of cast iron, each in five segments, bolted together, and forming one entire arch 125 feet span, and rising 17 feet 6 inches in the centre, and the level of the rails on the upper platform 108½ feet above the level of high water mark of the Tyne. Depth of the rib 3 feet 9 in. at the springing, and 3 feet 6 in. at the crown, with flanges 12 inches broad, external ribs 2 in. thickness of metal, internal ribs 3 inches. Total sectional area at the crown 644 square inches, which would bear with safety a load of 5, or 6,000 tons, and would form, with proper abutments, a strong arch in itself; but for the fullest security, and to prevent the possibility of inconveniences of risk from deflection or vibration, or otherwise, each rib is united at the springing by strong malleable iron bars or ties, 7 in. broad and 1 in. deep, of the best scrap iron, and in all 24 in number. The railway is supported above the arch, and the roadway suspended from beneath, by hollow cast iron pillers, 10 feet apart, and each 14 inches square, through which are passed strong malleable iron circular bars, binding the whole into one stiff and solid mass.

"The sectional area of the horizontal bars is 168 square inches, which would sustain upwards of 4,000 tons without breaking, and 1,500 tons with perfect safety, but the whole weight of the bridge will not exceed 700 tons, leaving 800 tons of surplus strength.—The railway, which is at the summit level, runs on a level of 4 feet above the crown of the arched rib, and is supported in the middle by hollow cast iron trough girders resting on the top of the pillars, 10 feet apart, and united by longitudinal timbers laid with strong planking. The roadway runs nearly on a level with the malleable iron ties, leaving a space of about 20 feet clear head room. In the whole of the work the utmost pains have been bestowed on materials and workmanship, and in making everything complete, the surfaces, which abut together, being regularly planed, or turned, as in machinery; and from all the arrangements the most successful results may be anticipated from this bridge. The cost of the iron work and roadway, by the estimates, comes to £112,000, and the contracts for the bridge and viaducts to something above £300,000."

RAILROAD IRON—500 TONS HEAVY Pattern—to arrive. For sale by
DAVIS BROOKS & CO.
68 Broad street, New York.
June 3 tf

TO CONTRACTORS FOR MASONRY.

PROPOSALS, under seal and suitably endorsed will be received by the undersigned up to SATURDAY, the 10th of June, proxo., inclusive, for the construction of two large stone viaducts upon the Washington Branch of the Baltimore and Ohio Railroad over the Little Patuxent river near the Savage factory and Northwest Branch at Bladensburg.

These viaducts will be heavy structures, well worthy the attention of Contractors of the first capacity for this kind of work, who are therefore invited to examine them. The plan of the Bridges may be seen at the Company's office, No. 23 Hanover street Baltimore, where full information will be given by C. P. Manning, Master of Road.

Unexceptionable recommendations must accompany the proposals.

By order of the President and Directors.

BENJ. H. LATROBE, Chief Eng.

Engineer's Office, Baltimore & Ohio R. R.
2t23 Baltimore, May 15th, 1848.

PENNSYLVANIA RAILROAD COMPANY. Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law. GEORGE V. BACON,

May 13—8t Treasurer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

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THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

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28 Platt street, New York.

May 6, 1848.

TWO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

FULLER'S PATENT INDIA RUBBER Railroad Springs.—These Springs are composed of alternate layers of India Rubber rings and Metallic plates, and are superior to those made of steel, for the following among other reasons:—

First—On account of their extreme simplicity, and the impossibility of their being broken or damaged.

Second—Their lightness: the elastic malerial not being more than one-tenth of the weight of steel springs of similar strength, thereby saving many tons of dead weight in a long passenger train—a matter of great economy in working railroads.

Third—The facility with which the power of these springs may be regulated: first, by increasing or diminishing the diameter of the ring; and next, by increasing or diminishing the number of the rings in each Spring.

Fourth—It is a particularly good material for Buffers; because, when first pressed, they are much more elastic, and more easily acted on than steel; whilst the power of resistance, after yielding to a certain extent, increases in such a ratio as to prevent the possibility of the Buffer-head being brought to a *dead hard stop*. And from this arrangement, the most valuable results may be anticipated in cases of collision.

Fifth—The easy motion given to the cars and engines which are fitted with these Springs—there being none of that jarring or vibratory motion so apparent with steel springs; and consequently there is a great saving of wear and tear, both to the cars and the permanent way. The recoil of a steel spring is frequently more harsh than the actual giving of the spring in the first instance, and this recoil is altogether obviated by India Rubber Springs.

Sixth—The cost of India Rubber Springs will be found less than those of steel, and they are calculated to last very much longer.

These Springs and Buffers have now been tried for upwards of three years, under very able superintendence, and with the most decided success. They are in general use upon the principal lines in England and Scotland, (among which may be mentioned the Great Western, the Midland, the London and North-Western, the Eastern Counties, London and Brighton, London and Dover, North Staffordshire, and Caledonian Companies.) They are also used in other parts of Europe. The patentee, therefore, feels justified in stating that he is prepared to furnish not only a more efficient Spring and Buffer than any hitherto in use, but a more durable one, and upon terms which will effect a considerable saving to Companies.

The most satisfactory trials have been made as to the non-liability of this material being affected by extremes of cold or heat; nor will any amount of pressure permanently alter its shape or structure. The patentee therefore submits the invention to the public, with the confident anticipation of its successful and general adoption.

The patent for this invention was granted to Mr. W. C. FULLER, in October, 1846, and the same gentleman has patents for it in England and other countries in Europe. The sole Agent in the United States is Mr. G. M. KNEVITT, who will show models and drawings of the various modes of application to *passenger cars, engines, tenders, wagons, etc.*, and give further particulars as to its satisfactory working; and is prepared to supply the Springs in any quantity, or to grant licenses for manufacturing them.

Principal Office, 78 Broad Street, New York.

And a Branch Office at Messrs JAMES LEE & CO.'S, 18 India Wharf, Boston.

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington. Philadelphia Co.,
March 12, 1848. 11tf

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.

April 22, 1848. 1y*17

WILLIAM JESSOP & SONS,

CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtis & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC.,

Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY,

Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

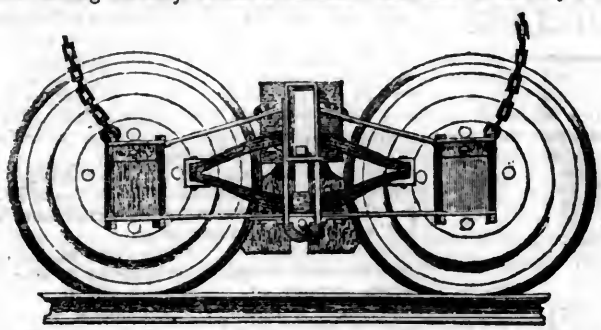
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Plaining, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

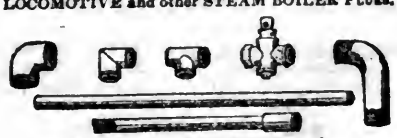
Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, 1y19 Sup't Motive Power.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja15 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 3211

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

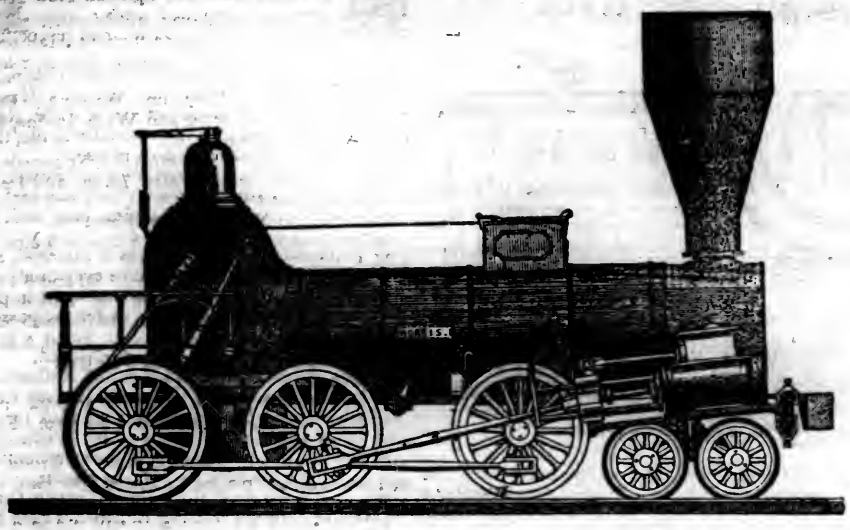
JAMES D. MOWRY,

General Agent,

Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.
BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

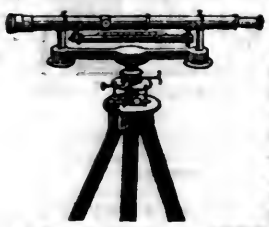
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent*.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

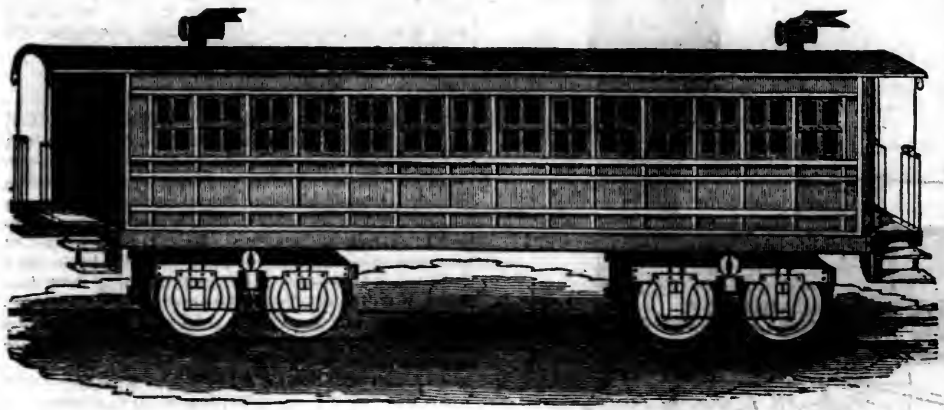
HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,

1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5½ p.m.
For Reading 7, 8½ & 11½ a.m., 2½, 4½, 5½, 6½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m
From Reading at 6, 7½, 9½, 11½ a.m., 1½, 4, 7½, 9½ p.m

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.
Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, April 15, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelp'a

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, May 1st, 1848.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 10 a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Allyn's Point for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1v S. H. P. LEE, Jr., Sup't.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.

Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, conncting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2 25 and	1 90
" Pottsville "	34	1 40 and	1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*

Savannah, Aug. 15th, 1846. 1y31

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont; thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

Fare—From Cincinnati to Lebanon		$1 00
" "	" Xenia	1 50
" "	" Springfield	2 00
" "	" Columbus	4 00
" "	" Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

17tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton, 271 miles.	Between Charleston and Dalton, 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 40	0 65
	Cotton, per 100 lbs.	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel	2 50	4 25
	Salt per bushel	0 18	
	Salt per Liverpool sack	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC Railroad.

—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil) ..... $1 50 per barrel.
On brls. dry (except lime) ... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery ..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons ..... $5 00 per hhd.
On molasses and oil ..... $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves.... Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass..... Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass..... Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass..... Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass..... Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at. Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.	1st train	2d train.	3d train.
Leaves.... Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass..... Rochester.	12½ M....	7 P.M.	12 M.N.
Pass..... Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass..... Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass..... Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at. Albany....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

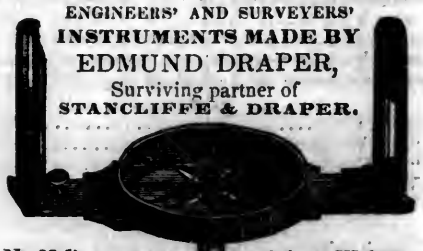
LAP-WELDED WROUGHT IRON TUBES

for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 25.] SATURDAY, JUNE 17, 1848. [WHOLE No. 626, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, June 17, 1848.

Railway Switches.

"Andrew Rallston, of West Middletown, in this State, has made an improvement in railroad switches, for which a patent has been obtained. His claim consists in the combination with the central cross-tie of the switch, the stud, the detaching plate, the lever, the spring, and the friction plate, with the apparatus in the same, in such manner that the forward motion of the grinding-wedge to be secured to the front end of the locomotive, will *unfasten* and move the switch to the desired position, and switch refasten itself again, etc."

We find this paragraph in the Pittsburg Gazette—but not as original—yet without the proper *earmark*—and cannot therefore trace it, but should like to understand it better.—[Ed. R. R. J.]

Crawfordville and Indianapolis Railroad.

The following gentlemen have, we understand, just been elected officers of the board, as we learn from the People's Press, to wit: Prof. Wm. Twining, President; Alexander Thompson, Secretary; John Wilson, Treasurer; H. T. Snook and Townsend Griffith, Agents and Collectors.

Connecticut River Railroad.

Receipts for May.—The receipts of the Connecticut River railroad for the month of May amount to $15,126 45, viz:—for freight $7,664 01; passengers $7,199 36; from other sources $263 08. The receipts of the corresponding month of last year were $9,791 85. Increase 54 per cent.

Beginning of the End.

"The rails of the New York and New Haven road, says the Bridgeport Farmer, have been laid quite a piece, from the lower part of this city into Fairfield. The track will be completed to Southport in a few days, and a car placed upon it for the conveyance of passengers. The work on the whole is progressing with all practicable speed. In about two months, look out for a train from New Haven."

Reading Railroad.

We learn from the Evening Bulletin that a special meeting of the stockholders of the Reading railroad was held at their office in this city, on Wednesday, the 14th, for the purpose of voting upon the law of the last legislature, authorizing the conversion of their bonds into preferred stock. The meeting was said to be large, and very satisfactory, and the vote for conversion was unanimous, upon the bonds of 1850 and 1856; the stock to bear 7 per cent. interest.

This is an exceeding good arrangement for the bondholders, as they will get 7 per cent. instead of 6—and equally good for the company, as it will not be liable to be called upon to pay the bonds at maturity.

Iron.

It may prove interesting, says the Philadelphia Commercial List, to some of our numerous subscribers engaged in the manufacture of iron, to learn the comparative supplies of the various kinds of iron which have passed eastward from Havre de Grace through the Chesapeake and Delaware canal, from the opening of canal navigation to the 1st of July in 1847 and 1848.

	Pig metal.	Wrought and Blooms. Railroad.	
In 1848, pounds...	29,496,480..	5,341,130..	827,103
In 1847, " ...	20,389,680..	3,837,592..	1,560,067
Increase in 1848..	9,106,810..	1,503,598..	*732,964

Lake Superior Iron.

"The iron ore from Lake Superior, says the Detroit Free Press, is attracting no little attention of our Pennsylvania neighbors. The Jackson iron works, on Carp river, are doing a considerable business. A company of gentlemen from Pittsburg have gone up north to examine into the business. The specimen that has gone east, from its superior quality, has excited the wonder of dealers. Its extraordinary fine grain has caused an opinion that it will prove equal to any in the world for cutlery and fine work. It much resembles the Damascus."

* Showing a decrease in blooms of 732,964 lbs. Most of the blooms manufactured in the interior have gone west to Pittsburg.

Porcelain Clay.

Is it true that a deposit of clay suitable to make porcelain has been discovered in the region near Pottsville? Will some of our friends in that region inform us as to the fact?

Sangamon and Morgan Railroad Company, Illinois.

This road commences at Naples, in Scott county, on the Illinois river, and its present terminus is at Springfield, Sangamon county—but it is to be ultimately extended to LaFayette, in Indiana, 170 miles, from Springfield.

This is one of the State roads commenced, and partly constructed, in Illinois in 1837-8-9, and abandoned for a time. It was first partially opened in 1839, and completed in 1841, afterwards abandoned by the State, and in 1847 purchased by a company of eastern capitalists, who are now re-constructing and re-furnishing it. From Naples to Springfield is 57 miles—and when completed to LaFayette, it will be 227 miles in length. The estimated cost of the 57 miles—including the State outlay—is $1,200,000. The plan of superstructure is, we learn, to be red cedar cross-ties, 5 x 10 inches full, and 9 feet long, laid 30 inches from centre to centre, with longitudinal string-pieces, on which a flat rail of 2½ x ½ inches, or about 27 tons to the mile is to be laid. A single track, with grades not exceeding 37½ feet, averaging about 12 feet, per mile. Least radius of curvature 1500 feet, but generally 5,730 feet.

The new company are pushing on the work with great spirit, under the charge of J. E. SHIPMAN, Esq., chief engineer, formerly of the Long Island and other roads in New York. In the expectation of being ready for use in December next, they have, we understand, ordered of Messrs. Rogers, Ketchum & Grosvenor 4 locomotives, and 4 large passenger, and 50 freight cars, of *Keck & Davenport*, of Cincinnati.

It is the intention of those interested in this line to make arrangements for its extension to LaFayette at the earliest possible period—where it will connect with the road to Indianapolis, and to the Ohio at Madison. And the time is not distant, when it will have several other connections, with other lines in various directions, which will unquestionably make it a first rate investment for those who are now engaged in it, and of great utility to the country through which it passes.

New Locomotive Manufactory.

We understand that Messrs. Davenport & Bridges, of Cambridge Port, the well known car builders, have added to their extensive establishment two new fire-proof brick buildings, one of 355 feet by 40 feet, the other of 240 feet by 43 feet, two stories high—the first story 16 feet in the clear—the second 12 feet. One of the buildings is for a foundry and smith shop—the other a machine shop—for the manufacture of locomotive engines, as well as cars; and they have, we understand, associated with them, in this department, Mr. Lewis Kirk, of Reading, Pa., who has had much experience in engine building. He was formerly of Lowell, Mass., and worked on the engines built by the Locks and Canal company, and has since spent three years in Europe; but for the last five or six years he has had charge of the extensive machine and repair shops of the Reading railroad company, at Reading, Pa., where he has built some of the best engines on that road, both passenger and freight. Those built for the fast passenger train, will, it is said, run 45 miles an hour with ease, with a train of 5 long passenger cars, without losing steam; and the freight engines are said to be equal to any others on the road—which is high praise—and have hauled 100 cars, loaded with 5 tons of coal each, 15 miles per hour. Davenport & Bridges are also putting up a forge and a steam hammer for forging engine and car axles, and all other heavy forging. This, when completed, will be one of the most extensive establishments for the manufacture of railroad machinery in this country. The buildings and yard room cover upwards of 5 acres, bordering on the back bay of Boston harbor—thus they are enabled to receive coal and iron direct from vessels into their yard, and deliver on board of vessel any machinery made by them. They will, it is said, have shop room equal to one floor of 2,200 feet long by 40 feet wide, covering 88,000 feet, or about two acres, under cover. At the last session of the legislature there was a charter granted for a railroad from the Boston and Worcester railroad to the Fitchburg and Lowell, through Cambridge Port, running near their works, which, when built, will connect together all the railroads which centre in Boston, thus enabling them to run a car, or an engine, onto any road, and to deep water at Charlestown and East Boston. The proprietors of this establishment have an act of incorporation, passed at the last session of the legislature, with the privilege of a capital of $400,000, which they can avail themselves of if necessary. It is their intention, we are informed, to furnish railroads with engines, cars, wheels, axle, chairs, frogs, and all other castings and forged irons, at the shortest notice, and at the lowest prices for first class warranted work. Thus we see large establishments rising up in different parts of the country—for supplying the demands of the railroad interest—in which thousands of our industrious and ingenious mechanics will find constant employ, and liberal compensation, and we trust the enterprising proprietors—both new and old—will find full employment and prompt payment; and that they may, we would suggest that they let their works be known to the railroad interest by advertising in the *Railroad Journal.*

Post Office and the Railroads, at Home and Abroad.

We recently noticed, in the papers, that a committee of the senate had recommended, or rather reported a joint resolution that the postoffice department be directed to make an arrangement for carrying the southern mail over the direct—*usual*, and *only proper*—line from Washington south, at rates *not exceeding* those paid up to July, 1847. This is as it *should* be.

We perceive, by the English papers, that our government is not *alone* in its efforts to compel mail service in its favor, at wholly inadequate compensation. The following extract from the Railway Chronicle's "Gossip," gives a parallel case to that of the postmaster general at Washington:

"The Great Southern and Western of Ireland not being able to agree with the postoffice on the terms for the conveyance of mails, went to arbitration on the point. The arbitrators eventually referred to the umpire, Mr. Martley. Mr. Martley's decision was given last week; we hear it substantially bears out the award of one of the arbitrators, Mr. Wyndham Harding, in giving the company actually three times the sum offered by the postoffice. The consequence must be a difference of many thousands a year to the company. The short-sighted parsimony of the government, (says our correspondent,) in offering so utterly inadequate a sum to the railway company, as it appears they did, is highly censurable. Surely railway enterprise in Ireland should not be discouraged by attempts on the part of the postoffice to drive bargains even more extortionable than those which land owners are accused of aiming at, though without the excuse which land owners have of their rights being compulsorily interfered with."

It was asserted on the floor of congress—and contradicted by us in the Journal—that the charges on the English railways were merely nominal for carrying the mails—and to sustain our position, we have examined some of the last *semi*-annual reports of the principal companies, for facts which we give here in a condensed form, as follows, being the receipts from July to January last, viz:

NAMES.	From	To	Mileage in 1847.	Outlay or cost.	Dividend, rate of	£	s.
South Western	London.	Southampton	106	£5,836,132	8 per ct.	*8,573	06
Great Western	"	Bristol, etc.	240¼	10,630,763	7 "	*10,866	05
North Western	"	Liverpool and br.	378	20,010,467	8 "	21,442	08
Eastern Counties	"	Colchester, etc.	161¼	7,698,370	.....	4,696	12
South Eastern	"	Dover, etc.	165¼	6,398,218	6 per ct.	3,539	04
Midland	"	Sheffield, etc.	40¼	8,658,604	7 "	8,260	09

If these reports are correct, the member from Tennessee, Mr. Jones, was somewhat in the dark when he asserted that the English railroads carried the mails for a mere nominal amount; or—to use his own language, as reported—that "there is scarce a railroad in England, which transports the mails, that makes any charge to the government for doing it; though on some of the lines they charge a penny a mile; and in one instance, as I am informed, where they pay anything worth considering, is where the train is run in the night, *and expressly for the transportation of the mail.*"

There is a difficulty in deciding accurately the *rate per mile* on these roads, as, in the two first, other service is connected with the mails—and, in all, there was a considerable increase of mileage, between 1st July and 1st January.

It is to be hoped that congress will do in this matter what would be done by any discreet man in his own business—avail of the *best* service, and *shortest* time for the *least* compensation.

* It should be noted that in these reports, the item includes, in the South Western, *carriages*, and in the Great Western *expresses*, but in the others mails alone.

Lebanon Branch of the Little Miami Railroad.

The Lebanon, Ohio, Star of the 26th, says "that the subscription of stock is going on gradually, and there is every reason to believe that the $40,000 will be taken. Up to yesterday $20,000 had been subscribed. Most of this has been taken in town. The farmers have not generally been called on, but they will be in the course of a few days."

First Locomotive in Vermont.

"The first *genuine* railway locomotive, says the Windsor, Vt. Journal, of 5th ult., in Vermont, was exhibited on the Central road, at White river, last Tuesday. It is to be used, we learn, in grading up the road, where the track is laid. Some of our friends enjoyed a ride of a few miles on the Central, when the steam horse entered our State."

Vermont will soon have her full share or complement of this *breed* of horses.

Camden and Amboy Railroad.

Its Privileges and its Abuses.

At the close of our last article on this subject, we referred to a paragraph published in the Newark Daily Advertiser, in reference to the Resolution of the Legislature, and the course of the company upon that resolution. We now give the remarks of that excellent paper. They are as follows, viz:—

"*Railroad Lines between New York and Philadelphia.*—We were mislead by an article in a New York paper stating that the running of another line by the Camden and Amboy railroad at $3 was in pursuance of a law of the last legislature of New Jersey. This is not the fact. The only action of the legislature on the subject of the lines and fare between New York and Philadelphia, were resolutions unanimously passed by both houses, confirming the position taken by the State directors in their annual report, that the duty of the Camden and Amboy railroad company, under their charter and its several supplements, required of them the running of a line from Philadelphia by the way of Trenton and New Brunswick, to New York, for $3. The company are, we presume, in possession of these resolutions, and we cannot believe that they intend to disregard the requisition of the State directors, and set at defiance the solemn resolves of the legislature. The public, we are confident, will never be satisfied without the practical recognition of their right to the $3 line, through the principal towns of the State, and it remains to be seen whether the railroad company will hazard a conflict with the people and the legislature."

We are not quite as ready as the amiable editor of the Newark Daily, to believe that this company, which has been allowed to go so long without a curb, or martingale, will wheel into line, and follow the *suggestions*—merely—of the legislature. It will probably require another set of resolutions, and something more, to induce them to run a line at three dollars, where they have so long received *four* dollars—if they do, there will probably be some appendage to it, which will make it so inconvenient as to induce passengers to go in the *other* trains. *We shall see.*

We now resume our extracts from the letters of a "*Citizen of Burlington.*" The writer says:

"It has been shown that the tendency of the whole system has been that of shutting the farmers of the State out of the great market of the north, where consumers of food abound and producers of food are few, and compelling them to resort to the market of the south and west, where producers of food abound and consumers are comparatively few.

"Such being the case, it might be supposed that the great monopoly would at least throw no difficulty in the way that might prevent the consumers of food getting to Philadelphia, there to eat the food of New Jersey, which was thus forced into that market. Those who might thus suppose would greatly err. No effort is spared to prevent consumers from reaching that place to which the producers are compelled to resor: for the sale of their products.

"It will be obvious to the farmer, that the greater the number of travellers passing through Philadelphia, the greater will be the number of them always in that place requiring to be fed; and equally so that the greater the number of mouths wanting food, the higher will be the price of the food he has to sell.

"It will be equally obvious to him, that the greater the number of travellers passing through, or remaining in that place, the greater must be the number of persons required to minister to their wants, and that any cause which tends to diminish the amount of transient population requiring to be fed, must equally tend to diminish the amount of the stationary population requiring to be fed; and thus, that every interference with travel through Philadelphia, the only market to which he is permitted to resort, tends largely to diminish the demand for his products and greatly to lessen the prices to be obtained for them.

"If, now, it can be shown that in addition to prohibiting his access to the great market of the north, the system of the great monopoly tends also to prohibit consumers of food from reaching that market of the south into which he is driven, it will be seen that injury is piled upon injury, and it will then perhaps become obvious to him that he can in no way so advantageously apply some of his time and labor as in the effort to rid himself and his fellow citizens of this *Old Man of the Sea*, who has seated himself on their shoulders and is thus strangling both him and them.

"The number of immigrants from Europe that arrived in New York last year, was about 150,000, and nearly all of them travelled to the west, either by way of the North river, or by that of the Raritan and Delaware. The number that passed by the latter route could not have exceeded 12,000, and it was probably considerably less.

"The price paid by the unhappy men was $2 25 per head, being even more than I have been accustomed to suppose. At this enormous price they were carried in transport ships and *Black Marias*, and kept on the road eighteen hours, consuming the money and the food that might have carried them another hundred miles upon their journey.*

"I have now to ask your attention to the following advertisement:

"'Notice to Emigrants.—The subscribers having been appointed Agents for forwarding emigrants by Railroad from Albany to Buffalo, and intermediate places, are enabled to send them during the summer, from New York to Utica for $2 06; to Syracuse, $2 92; to Auburn, $3 36; to Rochester, $4 61; to Buffalo, $5 50. Children from 2 to 12 years old, half-price; under two years, free; and all baggage from Albany on the railroad is entirely free.

"'It is evident that it comes much cheaper to the emigrant to travel by railroad, than by canal, he reaching Buffalo per steamboat from New York, and railroad from Albany, in 42 hours: whereas per canal it takes from 9 to 10 days. The following calculation shows the result, viz:

Passage from Buffalo per railroad	$5 50
Luggage from New York to Albany, 100 lbs. free, balance for 100 lbs.	0 18
Luggage from Albany to Buffalo free.	
Living for 42 hours, say	0 75
Total per railroad	$6 43
Passage to Buffalo per canal, say	$2 00
Luggage to Buffalo, 50 lbs. free, balance for 100 lbs	0 55
Loss of time, at least 9 days, worth to the laborer, say 50 cts. per day	4 50
Living for 10 days, 50 cts. per day	5 00
	12 05
The traveller per railroad saves	$5 62

"It will be seen that the gain of time by the railroad, as compared with the canal, and the gain in the food required while travelling, are here particularly insisted upon. Having seen this, we may now compare the two systems.

"The man who travels north can be in Buffalo, more than five hundred miles distant, in 42 hours, at a cost of $5 50. He who travels through the dominion of the railroad kings, can accomplish ninety miles in 18 hours, at a cost of $2 25. The first can travel almost six times the distance for little more than double the money paid by the last, and in little more than double the time.

"The natural consequence of this is, that everybody is driven to the north, and men are forced to eat the food raised in the State of New York, when they might, and would, if permitted, travel south, eating on the road and in Philadelphia the food raised in New Jersey. The farmer of this State is thus first deprived of his natural market, and then deprived of his customers in the only one to which he is permitted to resort." * * *

Nothing is more true than what the writer says on page 31, about avoiding this route. He says:—

"Everybody, and every thing, avoids travelling over this State whenever it is possible so to do. The number of passengers is not one-fifth of what it would be, were competition permitted. The quantity of merchandize is not one-fifth of what it would be. Every thing travels *round* the State. Merchandize goes by sea, because it cannot get through the State. People travel north, when their ultimate destination is south, because they are not permitted to pass through the State, without being fleeced by the great monopoly. * * * *

It is equally true that "were all these things produced by laws of New York, New Jersey would be in a flame. Were the former, with a view to compel emigrants to pass by Albany and Utica, to enact a law imposing on all who might desire to pass through the latter twelve hours confinement in a *prison ship* or *Black Maria*, and a tax of $1 50 per head, would not New Jersey complain of the act?

"Were New York to impose a tax upon all merchants desirous of passing through this State, of three dollars per head, would the latter not complain?

"Were New York to impose a tax of eight dollars per ton on all merchandize passing through this State, would the latter not complain?

"She *would* complain, and that loudly. She would point to her few miserable and half-made railroads, and say that were travellers not forbidden to pass across her territory, she would have roads in abundance, and the best in the world, and her people would travel—themselves and their produce—to market, at one-fourth of the present cost. She would point to her ineffective and contemptible engines, and her old and filthy cars, and call upon the nation to witness the poverty of her whole system of conveyance. She would point to her old steamboats, and show the waste of time that was produced by their inability to obtain better ones. She would point to her people, still wading through mud, or sand, when they might have railroads, and she would contrast her situation with that of Massachusetts, already one great net-work of railroads. She would say that her advantages were greater than those of any other State in the Union, could she but be permitted to avail herself of them. She would point to the fact that she had a great city on her right and another on her left, all the inhabitants of which would pass over her roads, were they not prevented by such iniquitous laws. She would point to the vast amount of men and merchandise passing from one end of the Union to the other, that would pass over her roads but for these laws. She would point to the great coal region struggling for permission to send its vast products over her roads, supplying fuel, and consuming food. She would say, but for these laws I would now have roads as numerous as those of Massachusetts, and I, like her, would find my tables groaning under the weight of applications for permission to make more roads.* but my people are paralyzed by these iniquitous laws, and I scarcely make a mile of roads in a year. She would say that by these iniquitous laws men and merchants from abroad were forbidden to contribute towards making roads for the use of her own farmers who desired to go to market with their produce. She would say that if her people could have the contributions of the Union in aid of their roads, they would grow rich; that then her towns and cities would grow in size and number; that then her people could stay at home instead of flying to the west, that then her lands would be divided into small farms, and be well cultivated; that then she could have manure, and lime, and marl, at little cost; that then they would produce twice as much, and get better prices for all they had to sell: and she would call upon the Union to do her justice. She would hold township meetings, and county meetings, and State conventions, and the whole nation would ring with her complaints. * * *

"Let every man, then, determine to help himself. Let him urge upon his neighbor to help himself. Let him urge upon the township in which he lives to help itself. Let him urge upon the county to do the like, and let him urge it upon the State. Let him show to his neighbors the enormous extent of the taxes they pay for the support of this monopoly. Let him show them that their lands will be trebled in value by its abolition. Let him show them that the company itself, with its charter, is in their hands, to do with it as they please. Let him show them that justice to themselves, and their neighbors of other States, requires the abolition of the whole system, and that the performance of that act of justice will bring wealth, and prosperity, and happiness, to all. Let him show them that the whole strength of this great tyrant results from the want of union among themselves, and let him call upon them to unite their efforts in the cause of freedom. Let each and every man for himself determine to do this, and the work will then be done."

Antique Steam Engine.

"Some remarkably ingenious experimentalists flourished about the middle of the 17th century, whose names have perished; and of their labors nothing is known, except an enumeration of the uses to which some of their inventions could be applied. An example of this is furnished by an anonymous pamphlet, published in 1651, from which the following extract is taken. The device referred to, seems to have possessed every attribute of a modern high pressure engine, and the various applications of the latter appear to have been anticipated. 'Whereas, by the blessing of God, who only is the giver of every good and perfect gift, while I was searching after that which many, far before me in all humane learning, have sought, but not yet found, viz: a perpetual motion, or lessening the distance between strength and time; though I say, not that I have fully obtained the thing itself, yet I have advanced so near it, that already I can, with the strength or helpe of four men, do any work which is done in England, whether by winde, water, or horses, as the grinding of wheate, rape, or raising of water; not by any power or wisdome of mine own, but by God's assistance, and (I humbly hope, after a sortie,) immediate direction, I have been guided in that search to treade in another pathe than aver any other man, that I can hear or read of, did treade before me; yet, with so good success, that *I have already erected one little engine, or great model, at Lambeth*, able to give sufficient demonstration to either artist or other person, that my invention is useful and beneficial, (let others say upon proof how much more,) as any other way of working hitherto known or used.' And he proceeds to give 'a list of the uses or applications for which these engines are fit, for it is very difficult, if not impossible, to name them all at the same time. To grind malt, or hard corne; to grind seed for the making of oyle; to grind colors for potters, painters, or glasse-houses; to grind barke for tanners; to grind woods for dyers; to grind spices, or snuffe, tobacco; to grind brick, tile, earth, or stones for plaster; to grind *sugar canes;* to draw up coales, stones, ure, or the like, or materials for great and high buildings; to *draw wyre;* to draw water from mines, meers, or fens; to draw water to serve cities, townes, castles; and to draw water to flood dry grounds; *to draw or hale ships, boates, etc., up rivers against the stream; to draw carts wagons etc., as fast without cattle; to draw the plough without caitle to the same dispatch if need be;* to brake hempe, flax, etc.; *to weigh anchors with less trouble and sooner;* to spin cordage or cables; to bolt meale faster and fine; to saw stone and timber; to polish any stones or metals; *to turne any greate works in wood, stone, mettals, etc.*, that could hardly be done before; *to file much cheaper in all great works; to bore wood, stone, mettals;* to thrash corne if need be; to

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* The total number of forward deck passengers going north was 13,556
The number going south was 27,745
The number of immigrants must have been less than this difference 14,189

* The legislature of Massachusetts has before it at this time sixty-three applications for railroad charters.

winnow corne at all times, better, cheaper, etc. For paper mills, *thread mills*, iron mills, *plate mills; cum multis aliis.*' If this extraordinary engine of motion, observes Mr. Stuart, to whom we are indebted for the extract, was not some kind of a steam engine, the knowledge of an equally plastic and powerful motive agent has been utterly lost."

Lake Huron Silver and Copper Company.

"We have received, says the American Mining Journal of 21th May, a report of the president and directors of the 'Lake Huron silver and copper company,' which is now acting under a very liberal charter granted by the Canadian parliament.

"This company, we learn from the report, have three locations; of which they speak as follows:—1. The Spanish river location lies a few miles east of the river of that name; it contains an area of 6,400 acres, and adjoins a location belonging to the Canada mining company, and upon which a party has been employed during the past season, in sinking a shaft upon a highly promising vein.

"2. The Hinck's location also comprising an area of 6,400 acres. The value and importance originally attached to this location, is daily becoming greater, and is farther established by the very many and favorable indications which the explorations made of it, during the last summer, by Messrs. Forrest Shepherd, and Richard Kernick, have developed, and which are fully set forth in the several reports of these gentlemen.

"3. The location north of Echo Lake. This location, two and a half miles in length from west to east, by an average breadth of two miles from north to south, containing 3,200 acres, is situate towards the western end of Echo Lake.

"In speaking of the Hinck's location, Mr. Kernick says:

"While I would be extremely cautious in my recommendations, it would not become me to conceal the impression which rested on my mind previous to my examination of this property, and which opinion is now fully confirmed, that Keating's vein on the Bruce mines should cross this location near this point, and this is a continuation of the same vein. If so, what the value of this vein is, cannot be fully imagined; and there is no longer uncertainty or speculation in the mining of it, but a return of profit that will be yielded and increased in proportion as any given number of miners may be properly employed. If it is not Keating's vein, still such are the indications on the surface—such the value of the stuff broken out of the vein—such the probabilities of its being productive at the junction of the strata, that any intelligent miner seeing it, would pronounce that here was a field for mining investment, and a certainty of return sufficient to satisfy any reasonable expectations or wishes.

"Mr. Kernick also speaks of several clearly defined veins, which we have not room to refer to particularly; but he thinks them to be valuable, and recommends that they be tested.

"Professor Shepherd speaks as follows of the Hinck's location:

"On or near the western border of the Hinck's location, the sienitic rock of the Bruce mines makes its appearance with copper bearing veins which, as I remarked above, renders the probability very strong, that the Bruce veins extend entirely through the Hincks tract, although covered with a deep diluvium, the location thus affording excellent soil for farming purposes in addition to its mineral wealth. But whether these veins cross the location as supposed or not, is not a matter of immediate importance, for I have discovered others on this location which yield fine copper ore on the first blow of the hammer and pick, and which, in my opinion, are *sufficient* for the successful operations of any company for many years to come." * * *

"All these appearances are highly favorable to the existence of large deposits of copper ore. The rocks here may be classed with the lower siluvian, so noted in the Urals for abounding in mineral wealth. Here then is a second Cornwall, with the superior advantage of safe and commodious harbors, and a supply of wood and timber for centuries to come. Provisions and supplies of all kinds can be shipped for this location from Detroit and Cleveland at a very low rate, especially from Cleveland, where the dressed copper ore will most conveniently meet the coal for smelting, refining, and rolling. I need not enumerate the advantages of this locality over the region of Lake Superior. They are at once palpable and obvious. It is sufficient to say that from Quebec and Montreal, vessels may come with full freight, and without any obstruction, anchor in a safe harbor on this location." * * *

"What more could be expected or asked on a mineral location, except the *full assurance* of a good supply of ore? Of this, I think, no reasonable doubt can be entertained. For, to say nothing of the appearance of the copper on the south-western, western, and eastern middle portions of the tract, or of the very strong probability of the Bruce and Keating veins extending entirely through the Hincks location, there is on the northern half of it about four miles inland upon the eastern line, a large vein of quartz measuring nine feet or more in thickness. This vein is nearly vertical, and runs nearly east and west, as seen in the map. *It has all the strong characteristics of the Bruce veins*, and probably shows *quite as well* as those veins did before there was any excavation. It yields readily *both yellow and gray copper on the first blow of the hammer and pick*, and has been traced by cross cuts on the location for nearly *half a mile*. This vein alone, independent of all others, *I am confident*, will be sufficient for the successful operations of a well organized mining company for many years. To this I would therefore direct your attention. The ore from this vein is chiefly the yellow copper ore, which is a double sulphuret of copper and iron. It contains: sulphur, 34·8; copper, 34·8; iron, 34·4. If crushed and washed from its adhering veinstone and foreign matter, and properly smelted, it will yield eight parts of copper to every twenty-three parts of ore, or, in round numbers, thirty-three per cent. If the ore is imperfectly dressed, the yield will be less, accordingly. It is for such ore mainly that the Messrs. Williams, Foster & Co. and Crown company have paid nearly four hundred thousand pounds sterling the past year, and the Messrs. Vivan & Sons about three hundred thousand pounds. It is, in fact, *the* ore on which the greatest dependence is placed in Cornwall.

"We have heard the Hincks location spoken of by various gentlemen who have visited the mining country, and they have uniformly referred to it as being one of the most promising on the lake.

"It is fair to presume from the mineral prospects of this company, that they possess great wealth; and the directors being men of high character and business habits, we have no doubt their mining operations will be prosecuted with vigor, and the general business of the company transacted with economy and fidelity."

Lost Inventions.

"How few, how exceedingly few of the conceptions and experimental researches of mechanics have ever been recorded! How many millions of men of genins have passed through life without making their discoveries known! Even since printing was introduced, not a moiety of those who possessed, in an unusnal degree, the faculty of invention, have preserved any of their ideas on paper. Of some men celebrated for the novelty of their devices, nothing is known but their names; they have gone, and not a trace of their labors is left. Of others, the title by which they designated their inventions is nearly all that has came down—no particulars by which we might judge of their merits. This is the case with many of the old experimenters on steam, especially those who raised or attempted to raise water by it. Among these, we have sometimes thought *Lord Bacon* should have a place, under the impression that he employed, or designed to employ, that fluid to raise water from the deluged mines which he undertook to recover. He obviously had some *new* modes and machines for the purpose. An account of these he laid before the King, (James I,) who approved of the project, and consented that the aid of parliament should be invoked. In the 'speech touching the recovery of drowned mineral works,' which Bacon prepared to be delivered before parliament, is the following passage: 'And I may assure your lordships that all my proposals, in order to this great architype, seemed so rational and feasible to my royal sovereign, our Christian Solomon,[!] that I thereby prevailed with his majesty to call this honorable parliament to confirm and impower me, in *my own way of mining*, by an act of the same.' This great man was therefore in possession of a novel plan of accomplishing one of the most arduous undertakings in practical hydraulics; and so impressed with a belief in its efficiency, that the king was induced by him to call, or agree to call, a parliament, chiefly, it would seem, to give sanction to it. What the plan was, we are not informed, nor is any account of it believed to be extant. Dr. Tenison, (Archbishop of Canterbury,) the author of 'Baconiana,' alluding in 1679 to Bacon's 'mechanical inventions,' observes, 'His *instruments* and ways in recovering deserted mines, I can give no account of at all; though certainly, without *new tools*, and *peculiar inventions*, he would never have undertaken that new and hazardous work.' That the project consisted chiefly in some peculiar mode of raising the water is certain; and it is worthy of remark, that a member of his household was a mining engineer, and celebrated for the invention or construction of hydraulic engines, viz: Mr. *Thomas Bushell*, one of his lordship's menial servants; a man skilful in discovering and opening of mines, and famous for his curious *water-works* in Oxfordshire, by which he imitated rain, hail, the rainbow, thunder and lightning.' This was probably the same individual who is mentioned in some biographies as 'master of the roal mines in Wales, under Charles I.'—*Ewbank's Hydraulics.*"

Railroads in Illinois.

The American Mining Journal, of 24th ult., says that "in our last number we noticed the bill that has recently passed the United States Senate, granting to the State of Illinois, certain lands to aid in the construction of railroads, connecting the Mississippi river with the Northern lakes at Chicago. Of the importance of this grant we have already expressed our opinion, and also our full conviction, that every section of the country is deeply interested in the success of the project which it is designed to aid. We allude to it again for the purpose of introducing some extracts from an article on the subject, which appears in the St. Louis New Era of the 6th May, and to express our hearty concurrence in the views therein contained. We were not aware, till reading this article, that the benefits of the proposed grant are to be extended to the Alton and Springfield railroad. This, in our view gives additional importance to the measure. There is no line of railroad in the State more needed than this, or that will accommodate a larger interest. In fact, it is a part of the connection proposed, and essential to its completeness. In his notice of the bill, the editor of the Era remarks as follows:

"It not only makes a very large appropriation for the Central railroad from Cairo to the lakes, but a second appropriation for the Galena and Chicago railroad, and a third one for the completion of the railroad from Alton to Springfield. Each of these appropriations are of the most liberal character;—and if the bill passes the house, of which we have no doubt, and subsequently escape the *veto ordeal* of the president—about which there is no doubt—its provisions will, beyond any question, secure the completion of all three of these important links of communication in our sister State. The effect of these improvements upon the future prosperity of St. Louis may well arouse the serious reflection of its citizens—and, as one of the surest and safest modes to guard against any real or imaginary disadvantage that may flow from their construction, we again entreat them to give a more willing and helping hand than has heretofore been done, in encouraging, building up, and fostering manufactures in our midst.

"All three of the railroads to which we have above alluded, have liberal charters and rights guaranteed them that under the constitution of Illinois cannot be acquired by any other corporation. Prominent among these, is the freedom from individual liability of the stockholders, which by constitutional provision, is hereafter attached to all stock companies, of every kind and nature, that shall be organised under the laws of Illinois. This provision, while it will greatly prejudice the subscription to stock hereafter to be made to any incorporated company authorised by law since the adoption of the new constitution of Illinois: its want of existence in the charters already granted will, as a matter of course, greatly facilitate the construction and completion of the works free from so objectionable a feature. We mention this, that our citizens may know precisely how the matter stands.

"With many, the idea of the construction of the Central railroad is ridiculed. Against any such false security we beg leave to warn them. The bill that has just passed the senate appropriates upwards of a million acres of land for that purpose; it provides that the proceeds of this appropriation shall be applied in connecting the northern lakes with the Mississippi. Now let us see how the case stands. The canal is already completed to Peru. From Peru to Springfield, there will be in a very short time a railroad constructed to connect with the Alton and Springfield railroad, now being surveyed and in a fair way of early construction. The directors of the Central railroad company could then apply their appropriation entirely south of Springfield, which, with what subscriptions to the stock will be procured at home and abroad by the real estate owners of Cairo, would secure its construction to the mouth of the Ohio. In such a contingency can it be questioned *where* the immense amount of produce annually shipped from Illinois would find its outlet?—They, then, will have two termini of railroads on the Mississippi—one at Cairo, the other at Alton—and one of the other would be very apt to catch a great deal of the shipping business from their own State."

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 6th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	7,859 12	51,401 10
By Room Run	3,651 15	31,743 15
By Hazleton*	2,849 00	21,185 00
By Beaver Meadow*	2,680 14	20,864 14
By Spring Mountain*	2,003 07	14,667 06
By Buck Mountain*	2,748 10	17,603 19
By Cranberry Mines*	309 00	309 00
* Week ending 3d inst.		
Total	23,071 18	157,775 04

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 8th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	14,221 02
" Pottsville	4,818 07
" Port Carbon	10,099 14
" Port Clinton	4,072 17
Total this week	33,215 00
Total this year	487,434 19

The amount of coal brought to market by the Schuylkill canal during the week ending the 8th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	8,310 16
" Schuylkill Haven	3,037 06
" Port Clinton	210 10
Total this week	11,558 12
Total this year	111,209 14

Recapitulation.—Total Shipments this Season.

By Lehigh companies	157,775 04
By Reading railroad	487,434 19
By Schuylkill canal	111,209 14
Total	756,419 17

Morris Canal and Banking Company.—Report for 1848.

Our readers are aware that, in former years, the *management* of this company has not been in accordance with our views. It has, apparently, been used as a "foot ball" for stock speculators, rather than as a medium for bringing to market a portion of the required supply of fuel, for which it was ostensibly chartered and constructed; and the natural consequence has been that it has proved a permanent investment to most of those whose operations, in relation to it, were legitimate, and for the general good. During the last year, however, and perhaps for a longer period, it has been in the hands, and under the management, of those who *really* desire to make it profitable to its proprietors, by making it useful to the business community, rather than by buying and *raising*, and then by selling and *depressing*, the *price* of its stock.

Our personal acquaintance with the directors is somewhat limited, but we have known many of them by reputation, and several of them personally, for many years; and can say with great pleasure, and equal confidence, that we esteem them gentlemen of integrity, experience, and business habits, in whose hands—*with the necessary means to put it in good working condition*—it will become both useful to the community, and profitable to its shareholders.

The report of the late president, Asa Whitney, Esq.—which we give in part in this number—is characteristic of the man—plain, able, and to the point; showing, in clear language, what they have done—and what *must* be done to make it both useful and profitable.

It has been a common remark that this canal could never become an important avenue for supplying New York with coal, because there is not a supply of water in the streams by which it is fed; but from this report we find that, by their system of reservoirs, an ample supply is *already* secured to pass a *million* of tons per annum, and that by an outlay not exceeding $50,000, a still larger amount of water may be reserved than is now secured by their main reservoir—from which it appears that this objection is entitled to no weight.

True it is that many people object wholly to supplying of canals by reservoirs—but not, as we believe, with good reasons; and indeed, it is contended on the the other hand, that for canal navigation, *at all times*, reservoirs are better than running streams, as they are not, like streams, influenced by drought and flood—for the following reasons, viz:—

1. Because the streams are much affected by clearing up the country around their sources. This makes the freshets larger, and the streams less in dry weather.

2. The fall of rain and snow during the full year is very nearly equal each year—consequently the annual quantity, which may be secured by reservoirs, is nearly uniform—and when secured, may be fed into the canal as the business or leakage requires. The time of rain and snow vary very much—making the streams very high at one time, and very low at another—thereby making the natural stream an uncertain reliance.

3. The flow in the natural stream is often much affected by the dams erected on the streams above the feeding point. This evil is augmented as the water power on the streams is brought into use.

And these views appear to be fully sustained by experience in Great Britain for manufacturing purposes, as will be seen by an article on another page which we find in the Railway Chronicle of 15th April, under the head of "Proceedings of Societies, Institution of Civil Engineers, April 11th," to which we ask the attention of those of our readers who are interested in such matters.

We now give the report of the president entire—except the index, with the intention of referring to that soon, for the purpose of giving some account of the machinery, and of the working of wire ropes in England, etc.

DIRECTORS OF THE MORRIS CANAL AND BANKING COMPANY OF 1844.

Class No. 3, *Term expires in* 1848.

G. Griswold, New York: H. Southmayd, Jersey City, N. J.; F. T. Frelinghuysen, Newark, N. J.; N. Smith, Waterloo, N. J.

Class No. 4, *Term expires in* 1849.

J. I. Ceddington, J. C. Green, S. R. Brooks, New York; G. W. Edwards, Philadelphia; E. R. Biddle, New York.

Class No. 5, *Term expires in* 1850.

J. T. Soutter, New York; E. Marsh, Schooley's Mountain, N. J.; J. J. Scofield, Morristown, N. J.; J. J. Bryant, Elizabethtown, N. J.; Peter McMartin, Jersey City, N. J.

Class No. 1, *Term expires in* 1851,

Zebedee Cook, New York; A. Van Santvoord, Jersey City, N. J.; J. B. Varnum, New York.

Class No. 2, *Term expires in* 1852.

Asa Whitney, President, Philadelphia; P. Dickenson, Trenton, N. J.; R. Marsh, Rahway, N. J.; W. Dickey, Paterson, N. J.; C. H. Valentine, Hacketstown, N. J.

To the Stockholders of the Morris Canal and Banking Company of 1844.

In obedience to the 9th section of the act incorporating the Morris Canal and Banking company, the following statement has been prepared:

In order to make such statement as intelligible as is desired, it seems necessary first to notice a few events, both of early and more recent date, which appear to have had a controlling influence in producing that condition of the company's affairs which now exists.

The charter incorporating the company was granted by the legislature of New Jersey, December 31st, 1824. The construction of the canal was commenced in July, 1825, and completed between Newark and the Delaware river, opposite Easton, Pa., (90 miles,) in August, 1831. Under an act authorizing the Morris Canal and Banking company to extend its canal to the waters of the Hudson, passed January 26th, 1828, a canal has also been constructed between Newark and Jersey city, a distance of 11 miles, thus making the whole length of the canal from Jersey city to the Delaware river 101 miles.

The original dimensions of the canal were as follows:—Width at top water 32 feet, at bottom 20 feet; depth from top water line 4 feet; locks 75 feet long between the quoin posts; and width of chamber 9 feet. While confined to these dimensions, the canal was only competent to pass boats loaded with 25 tons.

The distance from tide water at Newark to the centre of the summit level near Stanhope, is 51 miles, and from thence to the Delaware river at Easton, is 39 miles.

The elevation of the summit above tide water at Newark, is 914 feet, and the descent from the summit to the Delaware river at Easton, is 760 feet.

To pass boats over this elevation, 23 inclined planes and 23 lift locks are employed—distributed as follows:

Planes east of summit..	12	Agg. height..	758 feet.	
Locks " " ..	16	" lift.....	156	
				914
Planes west of summit..	11	" height..	691	
Locks " " ..	7	" lift.....	69	
				760
Total planes 23—Locks 23—Ascent and desc't.				1,674

The Delaware division of the Pennsylvania canals, which is a competitor for the trade of the Lehigh valley, extends up the Delaware river from Bristol to Easton, 60 miles. Its dimensions are 40 feet wide at top water, 25 feet at bottom, and 5 feet deep, with locks 96 feet long between quoin posts, and 12 feet wide. These dimensions are adequate to pass boats loaded with 60 or 65 tons.

The Morris canal, while limited to the dimensions stated above, could not compete successfully with the Delaware division of the Pennsylvania canal, in carrying coal from the Lehigh valley to tide water, and could, therefore, only be employed in supplying the demand for that article in the interior, and in carrying on a comparatively small local trade along the line. The revenue derived from this trade being insufficient to keep the canal in repair, and to pay the stockholders anything on their investments, it was decided to enlarge the canal, with a view to enable it to participate in the rapidly growing coal trade from the Lehigh valley. During the years 1840 and 1841, the lift locks were enlarged to their present dimensions, which include chambers 98 feet long and 12 feet wide.

Immediately after the locks were thus enlarged, the company failed; and by a decree of the chancellor, its effects were put into the hands of receivers, by whom the canal was leased for a small annual rent until the close of the season of 1844.

In October, 1844, the canal, its appendages, and all the chartered rights of the company, were sold by virtue of a certain morigage, under a decree of the court of chancery of the State of New Jersey.

Soon after the sale, the purchasers and their associates, by and with the advice of counsel, re-organized the company under the name of "The Morris Canal and Banking Company of 1844," distributed the stock into shares, and issued scrip to the full amount authorized by the charter. The company as then organized, commenced the improvement of its canal, early in the season of 1845, with the intention of making it in every respect, as good an avenue for the trade of the Lehigh valley as its competitor, the Delaware division of the Pennsylvania canals.

Except in depth, the prism of the canal was enlarged to the dimensions last referred to, viz: 40 feet at top water, and 25 feet at bottom. Two new summit planes were substituted for two old lock planes, and the canal opened for navigation in August, 1845.

Up to the time referred to, the company had not the control it has since acquired, to the waters of its main reservoir, in Lake Hopatcong, which is located on the summit, near Stanhope

The season of 1845 being an unusually dry one, and the waters from that reservoir having been used for mannufacturing purposes without restriction, during all that season, including the previous winter and spring, it had become nearly exhausted when the canal was ready to be filled; the consequence was, that very little business could be done until near the close of the season, for the want of water.

From what has been stated, it will be observed, that the improvements contemplated, were still incomplete at the close of 1845. The work connected with the enlargement between Jersey city and Newark, was unfinished; on considerable portions of the line west of Newark, the banks had not been raised high enough to hold more than 4 feet of water. Of the 23 old planes, only two had been rebuilt. The Pompton aqueduct was unfinished; an additional reservoir was to be made at Stanhope; and others to be enlarged and improved; considerable repairs were to be made to the locks; new bridges to be built, also a new bulk head at, and deepening the channel across, the Delaware river.

Although a very considerable sum had been expended, yet the canal had not been so much improved as materially to diminish the cost of movement upon it.

One hundred new section boats had been purchased and placed on the canal, of sufficient capacity to carry from 60 to 65 tons each; but they could not be passed over the old planes when loaded with over 50 tons.

Those planes when new, were not strong enough, nor provided with sufficient power, to pass a boat, or section of a boat, with safety, when loaded with more than 25 tons. Wood having been used as a material in their construction to a considerable extent, had, by the effect of time and use, become so much decayed and weakened, that frequent failures of some of their parts occurred when passing sections of boats loaded with 25 tons.

During the winter and spring of 1845-6, another summit plane was substituted for an old lock plane at Newark; and the canal and its appendages was in the condition above described, at the opening of that season.

It is proper to remark that there were at that time about 100 boats called flickers, built to run on the Morris canal before its enlargement. These boats were competent to carry about 25 tons—were run by their owners—and have been mainly employed in carrying on the local trade along the line of the canal since its enlargement.

It appears that the company owned at the commencement of the season of 1846, 108 boats. With these and the flickers, the trade on the canal was conducted that season—during which the navigation was not essentially improved, notwithstanding that a considerable sum was expended on the new plane at Newark—repairing the old ones, and improving reservoirs.

During the season the new summit planes required but little repairs, yet the experience had in their use, demonstrated conclusively, that they were not provided with sufficient power, or strength to pass a business of any considerable magnitude. They were not competent to pass but one section of the company's new boats at one operation, and with that load, their movement was quite too slow. The average time required to pass loaded boats up them was, and still is, at the rate of about two boats per hour; which would limit the amount of business that could be passed over the canal, to about one-quarter of what could be passed through the lift locks.

At the organization of the board in April last, it was stated as desirable, that an effort should be made to erect machinery at one of the planes, that would be competent to pass both sections of a boat loaded with 60 or 65 tons, as quick as such boat could be passed through a lift lock.

The work that first occupied the officers of the company, however, after the opening of the season of 1847, was to procure an additional number of boats to run on the canal. The comparatively small cargoes that could be carried; the frequent failures of the old planes, and the detention and hazard incident thereto, rendered it impracticable, to induce boatmen owning boats to run on the Morris canal. They preferred to run on the Delaware division, where they could carry larger cargoes, and be subject to less detention—consequently there was no way of increasing the business on the canal for that season, that promised so good a result, as that of purchasing more boats, which it was decided to do, to such an extent as they could be procured in time, and at fair prices. During the month of May, and early in June, more than 70 were purchased, and contracted for, the latter to be delivered in June, July, and August. Of the whole number thus engaged, 64 were delivered, which was all that could be obtained on the conditions prescribed. The revenue produced by them in tolls and boat rent, for the portion of the season that they run, (which did not average for the whole number more than half the season,) amounted to about half the sum paid for them.

The purchasing and contracting for these boats, and making arrangements for running them, occupied time that would otherwise have been employed in making the necessary preliminary preparations for the new plane—it was late in June before such an investigation of the subject was commenced, as was deemed necessary to arrive at a safe conclusion—from this time it was continued until a decision was had, and detailed drawings of it made: its strength, weight, and power, calculated, and its cost estimated, which was not until the 6th of August. It was then submitted to, and approved by, the committee on canal improvements, and on the 12th of August, to the board of directors, when the work was authorized to be put under contract.

The only essential points of difference between this plane and the summit planes constructed in 1845-6, may be stated as follows: The new plane was to have two tracks instead of one, with a car on each track. Wire ropes were to be used instead of the sprocket chain, and the machinery was to be stronger, and more power provided for driving it.

As early as July 1st, it was decided to use

wire ropes, and as there was but one maker of that article in this country, and the establishment where it was made was located near Pittsburgh, Pa., the wire ropes were ordered thus early. All the other work was put under contract early in September, to be completed in all of October.

At the time these contracts were made, it was confidently expected that the work would be completed and the plane put in operation early in November. But in consequence of casualties that occurred during its progress, the work was not advanced far enough to make a fair trial of its efficiency, power, and strength, until the 27 of January last, when such trial was made.

It was first tried with one section of a boat loaded with 25 tons, on one track, and an empty section of a boat on the other. After passing the cars, on which these sections of boats rested, up and down the plane, alternately, several times, the two sections, with 25 tons each, were placed on one car, the empty section remaining on the other, and the cars, as thus loaded, were passed up and down the plane, in like manner, several times. The empty section was then taken from the car on one track, and the load on the boat of two sections on the other track was increased *to* 70 *tons of cargo, exclusive of the weight of boat and car.* That boat was then passed repeatedly up and down the plane, with great apparent ease, and without employing more than half the power that had been provided.

The height of the plane is 51 feet, its inclination 1 in 10; the whole distance that the boat was moved by the machinery in passing from the lower to the upper level, was 900 feet, the time employed was 3½ minutes—that is to say, the boat loaded with 70 tons was passed up the plane, by which it was raised 51 feet, and carried forward on its journey 900 feet, in 3½ minutes. This was done repeatedly, and if desired, may be done in much less time, without employing the full power of the water wheel.

It will be observed, that the velocity at which the boat was moved forward, was at the rate of a fraction more than three miles per hour, which is a velocity above that at which boats are towed on the levels, by the usual power employed for that purpose.

From that trial, it was evident that there was power and strength enough provided to pass a boat over that plane, up or down, when loaded with 70 tons, as quick as the usual power employed in towing boats, can move them the same distance on a level; or in other words, that a boat may be passed over the space occupied by the inclined plane as quickly as it can be passed over a corresponding space on the contiguous levels.

The plane in question is known as No. 6, west of the summit, and is near Port Colden, or about 15 miles east of Easton, Pa. The estimated cost of its construction was $21,000. It has cost $27,168 33. The difference between its actual and its estimated cost, has been mainly produced by the casualties that occurred to the work during its progress, for the particulars of which, see Appendix A.

The liabilities of the Morris Canal and Banking company of 1844, in stock and debt, amounting to $1.542.242 21, with a brief description of the property for which that sum has been expended, is shown by the following general statement, as taken from the books of the company:

GENERAL ACCOUNT.

The Morris canal cost in 1814		$1,000,000 00
For permanent improvements in 1814, being the enlargement and repairs incidental to opening the canal	279,260 36	
For 100 scow boats	37,488 71	
For real estate	551 00	
		317,300 07
For permanent improvement in 1846, expended on new plane at Newark, reservoirs, repairs of planes, locks, etc	70,773 89	
For 7 scows and 1 flicker	2,942 82	
Loss on sale of mortgage bonds, deposited as collateral	25,537 72	
		99,254 43
For permanent improvem't in 1847, expended on bridges, land damages, etc	11,995 35	
For new plane, No. 6 west	18,258 12	
For 64 scow boats	21,405 44	
For loss on sale of bonds, January 11, 1847	5,817 00	
For real estate and water rights	14,338 00	
		71,813 91
For interest and commission on loans		12,030 00
		1,500,398 41
To transp. expenses, 1845	18,264 24	
Interest	1,773 08	
	20,037 32	
To transportation expenses, 1846	58,128 58	
Interest	28,813 39	
	86,941 97	
To transportation expenses, 1847	52,537 70	
Interest	29,608 36	
	82,146 06	
	189,125 35	
Deduct receipts for 1845	17,997 45	
Receipts for 1846	55,019 23	
" 1847	73,264 87	
	147,281 55	
		41,843 80
		1,542,242 21
By capital stock of 41,000 shares, at $25 per share		1,025,000 00
Profit on sale of 1,000 shares stock property of the company, sold in 1845 and 1846		6,159 37
Issue of bonds of the mortgage loan, payable in 1856, at 7 per cent		423,350 00
Bills payable, due in 1848 and 1849		77,806 50
Due sundry persons	$23,488 60	
Deduct on hand	6,884 59	
Deduct due the company	1,643 67	
Deduct bills receivable	5,034 00	
	13,462 26	
		9,926 34
		1,542,242 21
It appears by this statement that there has been paid for the canal the sum of		$1,000,000 00
For permanent improvements, boats and other purposes, incident thereto, the further sum of		500,398 41
That the expenses of conducting the current business, including interest on its debt for the last three years, was	189,125 35	
Deduct receipts from that source for same time	147,281 55	
For loss on current business.		41,843 80
		1,542,242 21
That there has been received for 41,000 shares stock		1,031,159 37
For mortgage bonds, payable in 1856, amounting to		423,350 00
Bills payable, due in 1848	44,777 00	
" " 1849	33,059 50	
		77,806 50
Due sundry persons	23,488 60	
Deduct cash and receivables, etc	13,562 26	
		9,926 34
		1,542,242 21

Of the bills payable, $25,777 will become due in June, July, August, and September—$19,000 in October next, and the balance, $33,029 50, will average due in May, 1849. Twice the amount of the company's 6 per cent. bonds have been deposited with these notes, as collateral security for their payment when due.

The interest on the bonds that have been negotiated, is payable on the 1st of April and October. To pay the April interest on these bonds, and for repairs on the canal, preparatory to its being opened, there will be required, for both objects, about $30,000, for which no arrangement has yet been made. The necessary repairs to the canal are now in progress, and will probably be completed in time to open it for business, as early as the season will admit, and with a prospect of considerably increased trade over that of the last season.

To be continued.

Liability of Railway Companies for Passengers Luggage.

The following is an account of proceedings, in an English court, on this subject, and as the same question will frequently arise in this country, we give it a place.

In the court of common pleas, on Wednesday, an action was brought by a Major Richards against the London, Brighton, and South Coast railway company, to recover £150, the value of a dressing case containing jewellery belonging to his wife. The case was tried at Guildhall, in the last sittings, before the lord chief justice, and a verdict passed for the plaintiff. The facts were shortly these:—On December 10, 1846, Mrs. Richards, a very infirm lady, came from Bognor, in a fly to the company's station at Woodgate, accompanied by her maid, and her luggage was transferred by the driver of the fly to the company's servants, and the dressing case in question was distinctly proved to have been placed in the carriage with her and her maid, and placed under the seat. On their arrival at the London bridge station, a hackney-coach attached to the station was called, and the luggage placed in it. The maid was about to take the dressing case out of the carriage, but one of the company's servants offered to take whatever was there to the coach. On arriving at Mrs. Richards' house, the dressing case was missing, and had never been found. It had not been seen by any of the witnesses after the train left Woodgate. There were three counts in the declaration.

The first stated that the defendants, as common carriers for hire, contracted to convey the plaintiff's wife with her luggage, to the terminus at London bridge, and alleged that, by their negligence, the dressing case was lost. The second count contained an allegation of an obligation, on the part of the defendants, as common carriers for hire, to convey safely from all parts of their line to the part of the station in London where the hackney-coaches plied, and therefore to convey safely from their own carriages when they arrived to the hackney-coach, and alleged the loss of the dressing case in that transit by their negligence. The third count contained similar allegations to the second, but did not allege the defendants to be common carriers for hire, but merely voluntary "bailees."

Mr. Serjeant Talfourd, pursuant to leave reserved, now moved to set aside the verdict, and to enter it for the defendants. The question was, whether the counts in the declaration were established. The breach in the first count was confined to the loss during the journey. There was no proof that the dressing case was ever received by the defendants at the Woodgate station, and it was not seen by their servants there at all, and therefore was not in the situation of luggage which had not been committed to their care. With regard to the second count, if there was no proof that the package was ever confided to the company at the Woodgate station, it could not be a part of their duty to convey safely from one part of the London station to another. But it was also a question whether any such duty attached to the company at all. With regard to the third count, it could not be said that the servants of the company could charge them as voluntary bailees, by taking on themselves the duty of conveying from their carriages to the hackney-coach.

The court granted a rule to show cause.

RESERVOIRS SUPERIOR TO RUNNING STREAMS ALONE FOR POWER, OR CANALS.

We find in the Railway Chronicle of 15th April, the following synopsis of a paper read before the Society of Civil Engineers on the 11th of that month, by Mr. J. F. Bateman, upon the "*Bann* Reservoir" in Ireland, to improve the water power of the Bann river for manufacturing purposes; and it appears that, by an outlay of only £3,300, the value of the mill power of that river was increased full *five-fold*.

When we receive the article here alluded to, we shall, if we deem it important, give it entire in the Journal.

INSTITUTION OF CIVIL ENGINEERS.—April 11.—*General Meeting*.—Mr. J. Field, president, in the chair. The paper read was the second part of a communication made in the year 1841, descriptive of the Bann reservoir, county Down, Ireland, by J. F. Bateman.—The first part, of which a short abstract was read, gave the object of the construction of these reservoirs, which were undertaken with the view of regulating the quantity of water in the river Bann, and more effectually supplying water power to the flourishing and increasing establishments on its banks. This river is, from the bare and naked character of the Mourne mountains, among which it rises, naturally liable to the greatest irregularity in its volume; devastating floods frequently pour down the channel, where a few hours previously there was not sufficient water for agricultural purposes. Greatly injurious as this must have been to the agriculturist, it was infinitely more so to the mill owners, who depended entirely upon water power for their manufactories. Mr. Fairbairn was consulted on the subject. He examined the locality, and advised the formation of reservoirs. The author was then appointed the engineer, and acting in some degree upon the suggestions of his predecessor, whom he continued to consult, the works were undertaken which are described in the present paper. The peculiarities in the act of parliament, granted in 1836, constituting the proprietors of the mills a joint stock company for the formation of the Bann reservoirs, are detailed. The works were originally intended to have been more extensive than they have been really executed. The reservoir at Lough Island Rearly is alone described. The ground in that spot was admirably adapted for the work, being the bottom of a basin, which was bounded on all sides by rugged hills of granite; in the centre of the basin was a small lake, at the bottom of which was discovered a bed, several feet in thickness, of fossil confervæ, similar to those discovered by Professor Silliman at Massachusetts, North America. This interesting geological fact was first noticed by Dr. Hunter, of Bryansford. The confervæ appeared like an impalpable powder, but when viewed through a powerful microscope they were found to be regular parallelograms, many of them covered with striæ. They are described by naturalists as the fossil skeletons of minute vegetables. The situation fixed upon for the reservoir rendered necessary the construction of four embankments between the hills, so as to raise the water to a height of 35 feet above the summer level of the lake.

The particulars are also given of a series of observations with rain gauges, continued for two years, for the purpose of furnishing data for computing the extent of reservoir which would be necessary to insure a supply of water throughout the year. The continuation described the subsequent works, which consisted of the Corbet Lough reservoir, which was designed as an auxiliary pound to receive the flood waters of the lower part of the river, and to retain the night water, to be discharged again during the day, immediately above the more extensive mills on the river. A watercourse of considerable dimensions was constructed to effect this, and an embankment was thrown across the narrow outlet of the lake, the water being admitted through self-acting floodgates, which closed as soon as the lowering of the river created a current in the contrary direction. The details of the construction of all these works were given, and it was shewn by calculations based upon actual experiment and observations of the quantity of water received, stored, and delivered from the reservoirs, that their construction had increased the value of the mill power of the river Bann full five fold, at a comparatively insignificant cost, as the actual expenditure for the works at Corbet Lough did not exceed £3,300, the closest economy consistent with the efficiency and durability of the work being rigidly kept in view, and the utmost attention being exercised by the resident engineer, Mr. W. L. Stoney.

CHESHIRE, (N. H.) RAILROAD OPENING.

We find the following account of the opening of this road, in the Mining Journal of 24th May.

The opening of this road to Keene, N.H., took place on Tuesday the 16th. The people of that village having united with the directors of the road to celebrate the event, invitations had been extended to the stockholders and others, friends of the enterprise, to be present on that occasion, and participate in its rejoicings. Those of the guests from Boston, and the intervening towns on the route, were conveyed to the scene of the celebration by a train of cars that left the depot of the Fitchburg railroad at Charlestwn on the morning of the day named, at 7 o'clock. This train, which on leaving consisted of sixteen closely filled passenger cars, was augmented on the route by the addition of four platform cars, that had been fitted up with seats for the occasion, and which were densely crowded. The whole train was drawn by two powerful locomotives, with the aid of an additional one pressing in the rear over the more difficult parts of the road.

The Fitchburg road being passed over, and that part of the Vermont and Massachusetts which forms the connecting link of the former with the Cheshire, the latter was entered upon at its junction in Ashburnham, 60 miles from the depot at Charlestown. From this point to Troy, a distance of 22 miles, the road had been previously opened. From Troy to Keene, the cars passed that day for the first time. Their entrance into the latter village was greeted with the firing of guns, the ringing of bells, and the glad shouts of human voices.

It is estimated that the number of persons brought in by the cars was twelve hundred. Three times as many more had gathered from Keene and the surrounding country to witness their arrival, and exchange congratulations upon an event so auspicious to themselves. It was half past one o'clock when the train reached Keene. A procession was immediately formed, and proceeded to the Town Hall, where the annual meeting of the stockholders was held. At this meeting the old board of directors was re-elected, and a very satisfactory report of their doings the past year, read. The business accomplished, the procession again formed, and repaired to the depot, where a bountiful colation, got up by the citizens of Keene, awaited their guests, and received ample commendation in the apparent relish with which it was partaken.—The feasting over, the Hon. Levi Chamberlain, chairman of the committee of arrangements, addressed the assembled company, giving a hearty welcome to those who had come from abroad to unite with them in their celebration, felicitating the directors and stockholders of the road upon the success that had thus far attended their enterprise, and expressing the joy of those for whom he

spoke in the multiplied advantages, which on that day they beheld opening to themselves.

Mr. Edwards, president of the road, responded in a very happy manner. He was followed by Mr. Walker, of Brookline, Judge Follett, president of the Rutland and Burlington road, Dea. Greely and Mr. Degrand, of Boston, Mr. Warren, mayor of Charlestown, Mr. Felton, superintendent of the Fitchburg road, Mr. Crocker, president of the Vermont and Massachusetts road, and Mr. Allen of Northfield, all of whom spoke in a strain of gratulation and encouragement.

At five o'clock the speaking was interrupted by the departure of the return train for Boston. The cars went out laden as they had come. The cheers, that were sent forth by the crowd that had gathered round to witness the moving off the train, were answered back in parting salutation from the retiring guests, and this as a heartfelt benediction, concluded the day's ceremonies. The multitude that but a moment before had thronged the streets of the beautiful village with life, were now in scattered parties in different directions wending their way to their several homes, each one having passed, as it would a happy—certainly an eventful day.

The Cheshire railroad of itself deserves a somewhat particular notice. It has already been mentioned, that 32 miles of this road are now completed and in operation. The remaining 22 miles, to Bellows Falls, are rapidly progressing, and will be ready for cars, as it is thought, late in the coming fall or early in the winter. At Bellows Falls it connects with the Rutland and Burlington road. Of this, about 27 miles, extending from Bellows Falls to Ludlow, will be opened immediately on the entire completion of the Cheshire road. That part of the same road extending from Burlington to Rutland, a distance of 66 miles, will be ready for the rails in the fall, and may perhaps be completed. This, then, will give on this route from Boston to Burlington, 206 miles of railroad in actual operation, leaving only 25 miles unfinished. These 25 miles are being worked, and although the most difficult part of the road, that over the summit, yet a very favorable route has been found for it, and such progress is now making, that it is confidently anticipated that the whole will be put in operation during the next year.

There is no better built railroad in the country, than that part of the Cheshire which is now completed. Such is the character of the country over which it passes, that it has secured a bed, solid as the hills it penetrates. The rail laid upon it is 60 lbs. to the yard. The bridges and culverts are of the most substantial and beautiful stone masonry, and are made of sufficient width for the laying of a double track. In every respect, in its projection, the steady determination with which it has been prosecuted, and the solidity and finish of its structure, it partakes of the granite character of the State. The scenery of the region through which this railroad passes is very fine, and a better view of it is obtained from the cars as they pass along, than is usually had with such rapid motion. In the approach to Keene, the road winds along the acclivity of a high hill, from which is seen the valley of the Ashuelot below, reposing in the most perfect quiet of beauty and loveliness. At another point it passes within about three miles of the Monadnok, which, rising in its purple vestment, amid the surrounding hills, and lifting its stately head among the clouds, seems the frowning monarch, whose regions have been invaded. The opening of the railroad was a worthy object of celebration. We glorify the achievements of arms, and commemorate the days on which their victories were gained. And why not distinguish the events that display an equal boldness of effort, and are followed only with good and happy results? When we regard the want of encouragement with which the project of building this road was started, the obstacles to encounter in its construction, and the steadiness and success of its prosecution, we cannot but admire the hopeful spirit, the determined purpose, and the untiring energy with which the work was begun, and has been accomplished. And when we consider the consequences that are to flow out from it, in the facilities for a more frequent intercommunication, in the en largement of trade, and in the multiplying of social comforts and enjoyments, we cannot fail to rejoice in it, as a triumph of human skill and enterprise, great as any that valor wins.

Renewal of Patents.

We are indebted, says the Journal of the Franklin Institute, for the following report to its distinguished author. We publish it for the benefit of future applicants to congress for renewals of patents, and because it contains a very definite and lucid exposition of a principle which ought to govern in all such cases, but has been heretofore too much neglected. COM. PUB.

SENATE U. S.—*Mr. Westcott, from the Committee on Patents and the Patent Office, to whom was referred the petition of Herrick Aicken, praying an extension of his patent for "an improvement in the saw-set," etc., made the following report:*

That a similar petition was presented to the senate February 3d, 1845, and referred to the same committee. No law passed in accordance with the prayer of the petition.

The following are the only papers filed with the petition:

1. A paper purporting to be a printed copy of his letters patent and specifications, etc., dated 24th of March, 1833, not certified or otherwise authenticated.

2. A paper purporting to be a printed copy of his protest against the decision of "*the board*" refusing to extend his patent. This appears to have been addressed to Mr. Ellsworth, former commissioner of patents, etc., and is dated June 4, 1844. It is not authenticated.

3. A printed schedule of articles stated to be improvements and inventions of the patentee, not authenticated, but of which articles he states specimens are deposited in the patent office.

4. A printed handbill or advertisement, with wood-cuts of the invention of the petitioner, for which he desires his patent renewed.

The petitioner has neglected to adduce to the committee any evidence whatever, except that furnished by these papers. The testimony before the board, and upon which it refused to extend his patent, has not been laid before the committee, though the petitioner asks that congress shall in effect, by a special act, *reverse* that decision. Without some *proof* of circumstances showing that petitioner should have granted to him an extension of his patent, as prayed by him, either from considerations of public benefit, or on account of his superior claims from other considerations, congress should not grant his application. Nor should he expect that the committee will seek to ascertain where the *proofs* of the merits of such application may be found, beyond the testimony filed with the petition, and then to search for, and adduce them. The petitioner must procure and present them with the petition.

Prior to the act of 4th July, 1836, regulating the patent office, (vide 5th vol., stat. at large, pp. 117, 124,) patents were extended or renewed only by special act of congress. Adopting the liberal principles of Lord Brougham's bill amending the patent laws of England, passed in 1835, (vide Kingley's and Prisson's Patent Laws, pp. 77, 79, etc.,) congress, by the 18th section of the law before cited, made the secretary of State, the solicitor of the treasury, and the commissioner of patents, a "*board*" to receive applications for the extension of patents, prescribing, with great particularity, the mode of proceeding by the applicant, the character of the testimony he should adduce to the board, and the principles by which it should be guided in the extension of patents.

These provisions are liberal to a patentee who may not have received adequate remuneration or reward for his invention. They are general, embracing nearly every case in which a patent should be renewed.

If cases occur of peculiar character and merit, which, from extraordinary circumstances, may not be within these provisions, and as to which the board have no *power* to grant an extension, and in which the patentee can show grounds for an application to congress for special relief, it is not denied that congress may and should extend such relief. Cases may possibly happen, also, in which, though the board had full jurisdiction, its decision refusing to extend a patent, should not be conclusive upon congress, and in which, upon application of a patentee, congress should even disregard such decision of the board, and extend the patent by a special law. But special legislation should always be avoided, except in cases of peculiar and extraordinary merit and necessity. The primary object of the 18th section of the act of 1836, was to provide an impartial tribunal for the decision of such questions upon settled rules and principles, and avoid the necessity of applications to congress for such special laws. Patentees, having full remedy under the general law, by application to the board, as the law prescribes, should be discouraged

from applying to congress, by a denial of the relief sought, till they resort to such general remedy provided by that general law; and which, it is repeated, is of the most liberal character. It is true, by the constitution of the United States, (vide Art. 1, amendments,) congress cannot make any law "abridging the right of petition;" but the action of congress upon petitions unnecessarily or improperly preferred, may, with entire propriety, be such as to discountenance their presentation. It has been urged, that it is not an abridgement of this franchise of petition for the redress of a grievance, public or private, to require that it shall not be prostituted by its use as the medium of proclaiming treasonable, or incendiary, or immoral sentiments, hostile to the constitutional institutions of the country, or libellous with respect to individual citizens, and also to prohibit the use of insulting and disrespectful language towards the body to which it may be addressed; but differences of opinion have existed as to the extent to which such restrictions may be rightfully enforced by congress. These rules do not, however, apply to the principle just advanced with reference to respectful memorials upon proper subjects, and as to the form, style, and length of which, the citizen may rightfully consult his own taste and fancy. Either house may, by its rules, prescribe what a petition for the extension of a patent, or for any such special law shall set forth, and the character and degree of proof that shall be adduced to entitle it to favorable consideration, even though it may not refuse to *receive* petitions on such subjects not conforming to such rules.

The multiplicity of recent applications to congress for the extension of patents by special act, as induced the committee to make some suggestions as to the general rules and principles that should govern in regard to such applications, which it may be well for applicants to conform to.

In all cases, a copy of the patent sought to be extended, duly certified, and also, of all official documents relating thereto, should be filed with the petition.

In no case where the board has, under the 18th section of the act of 1836, before cited, jurisdiction of an application to extend a patent, and in which no special reasons exist excusing the party for dispensing with such application, should congress favorably entertain a petition to extend a patent until such jurisdiction has been resorted to. And where reasons exist for not invoking the action of the "*board*," they should be distinctly stated and proved.

In cases where the board has no jurisdiction, and could not therefore extend the patent, that fact, and the reasons why the case is not within the jurisdiction of the board, should be clearly shown by applicants.

In all cases in which application has been made to the "*board*," and the extension refused, (as it is sought to rescind the decision of the *board*, and reverse it,) an exemplified copy of the application to the board, and of all the proofs before it, and of all its proceedings, should be filed by the petitioner, and the grounds for the application to congress for the renewal or extension, should be explicitly and distinctly stated.

In all cases, full proof by affidavit of persons certified to be of good character, and entitled to credit, and disinterested in the matter, should be adduced, substantially as required by the 18th section of the act of 1836, to the following points:

1. As to the value, merits, novelty, and utility, of the invention, its cost of manufacture or construction, etc.

2. As to the patentee's receipts and expenditures, respectively, in detail, as far as possible; as to his sales and expenses thereof; and as to the time, trouble, labor, and expense, in bringing his invention into use; and a faithful account of loss and profit in any manner accruing to him from and by his invention.

3. As to any litigation he may have encountered with respect to it, stating the same particularly, and the expenses thereof, and the result thereof.

4. Showing, that without fault or neglect on part of patentee, he has failed to obtain from the use or sale of his invention a reasonable remuneration for his time, ingenuity, expense, labor, trouble, etc., bestowed upon the same, and the introduction thereof into use.

5. As to all transfers or assignments he may have made of such patent right, or of the right to use the thing patented, and showing that such assignees, and others interested, have notice of the application to congress for such extension, so that injustice may not be done to third persons by their not being apprised of such application, and being therefore without opportunity to oppose such extension. If congress is without power to prescribe, in advance of such petition, that it will not *receive* it until such full public notice is given, it is not to be doubted that its action upon such petition may, and properly should be, influenced unfavorably, unless full notice is given to the world, and especially to those who may be interested, to dispute the claim of the petitioner to the extension asked. Notice is required by the 18th section of the act of 1836, upon an application for an extension to the "board." As the patent is not conclusive evidence either of the novelty and utility of the thing patented, or that the patentee is the inventor, (vide section 15, act of 1836, *et passim*,) all who may dispute the validity of the patent on such grounds, should have fair opportunity of being heard before the enactment of a special law which may conclude them, and the petitioner should be prepared to show he is the *inventor*.

6. If any special circumstances exist in a case entitling a petitioner to the favorable consideration of congress, they should hot only be distinctly stated, but *proved*.

7. All papers filed should be legally authenticated.

The absence of the proofs above stated, or disregard of the rules suggested, should, in every case, cause the rejection of an application for an extension.

Elaborately extended statements, essays, arguments, and explanations, in writing and letters from public men, or importunate verbal solicitations should not be regarded as supplying the place of *proofs*. In all cases that have been at prior sessions before congress, the dates should be specifically stated, as well as the action had thereon, referring to the Nos. and pages of the documents. The constitutional power of congress to require by law that petitions of any character, or the testimony to sustain a petition, shall be *printed* in advance of presentation, by a petitioner, may be questioned; but all may understand that the great facility afforded by the speedy examination of a case by the printing of the papers exhibiting its merits, and the furnishing each member with a copy, should be a sufficient incentive to cause an applicant for any relief by special act, to adopt such a course. If they will present petitions written so that it is difficult to decypher them, accompanied by a mass of ill-arranged papers, many often wholly irrelevant, it is not strange that delays arise from the inability of committees and members to examine the cases properly. Applicants may find it beneficial not to disregard this suggestion.

Instances have heretofore occurred in which patents, involving interests to the amount of hundreds of thousands of dollars, have been extended by special act of congress, and which acts have been complained of as doing injustice to the parties not heard, or whose rights were not considered by congress. A memorial has, at this very session, been referred to this committee, praying congress to repeal an act passed in 1845, which extended a patent, in which memorial, signed by sundry citizens of Massachusetts, the express ground is taken, and the express allegation made, that the enactment of the law was procured by "misrepresentation" and by "fraud!" Strict adherence to the rules above suggested, may prevent this accusation being made in future. Another preventive is, the incorporation, in every act extending a patent where there are assignees.

The committee, in the particular case under consideration, inasmuch as it does not conform to these rules, and as no evidence has been adduced, report the following resolution:

Resolved, That the prayer of the petition of Herrick Aicken should not be granted.

Office St. Lawrence & Atlantic Railroad Co., Montreal, June 2d, 1848.

NOTICE TO CONTRACTORS.—SEALED Tenders, (directed under cover to the Secretary,) will be received at this office, until the 24th inst, for the Laying of the Superstructure upon the Montreal Division of the St. Lawrence and Atlantic Railroad, extending from the River St. Lawrence to the Village of St Hyacinthe, a distance of about Thirty Miles.

Plans and Specifications will be ready for the inspection of Contractors, on the 15th of this month, and they are respectfully requested to make application to the resident engineer of said division (R. T. Bailey, Esq.,) for information in regard to the manner in which the work is to be performed.

No Tender will be considered unless accompanied by the names of two respectable sureties, personally known to the company or engineer, and, in all cases, undoubted security will be required.

The work must be commenced on the 1st July, or immediately after the contracts are closed, and completed by the 1st of October next.

3t24 THOMAS STEERS, Secretary.

HARTFORD AND PROVIDENCE RAILROAD.—Notice to Contractors.—Sealed proposals will be received by the Directors of the *Hartford and Providence Railroad Company*, at their office in the city of Hartford, near the Postoffice, until the 1st day of July, for the Grading, Piling, Masonry and Bridging of that portion of the road extending from the east bank of Connecticut River to Willimantic, about 29 miles.

The Maps, Profiles, Plans and Specifications will be ready for examination on and after the 26th day of June.

The line will be divided into convenient sections, and proposals may be made for one or all the sections, or for the whole work except the superstructure.

EDWARD H. BROADHEAD.
Chief Engineer H. & P. R. R.

Engineer's Office, Hartford, }
May 27, 1848. } 4t24

RAILROAD IRON—500 TONS HEAVY Pattern—to arrive. For sale by
DAVIS BROOKS & CO.
June 3. tf 68 Broad street, New York.

PENNSYLVANIA RAILROAD COMPANY. Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law.

GEORGE V. BACON,
May 13—8t Treasurer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive Locomotive Engine department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FULLER'S PATENT INDIA RUBBER Railroad Springs.—These Springs are composed of alternate layers of India Rubber rings and Metallic plates, and are superior to those made of steel, for the following among other reasons:—

First—On account of their extreme simplicity, and the impossibility of their being broken or damaged.

Second—Their lightness: the elastic malerial not being more than one-tenth of the weight of steel springs of similar strength, thereby saving many tons of dead weight in a long passenger train—a matter of great economy in working railroads.

Third—The facility with which the power of these springs may be regulated: first, by increasing or diminishing the diameter of the ring; and next, by increasing or diminishing the number of the rings in each Spring.

Fourth—It is a particularly good material for Buffers; because, when first pressed, they are much more elastic, and more easily acted on than steel; whilst the power of resistance, after yielding to a certain extent, increases in such a ratio as to prevent the possibility of the Buffer-head being brought to a *dead hard stop*. And from this arrangement, the most valuable results may be anticipated in cases of collision.

Fifth—The easy motion given to the cars and engines which are fitted with these Springs—there being none of that jarring or vibratory motion so apparent with steel springs; and consequently there is a great saving of wear and tear, both to the cars and the permanent way. The recoil of a steel spring is frequently more harsh than the actual giving of the spring in the first instance, and this recoil is altogether obviated by India Rubber Springs.

Sixth—The cost of India Rubber Springs will be found less than those of steel, and they are calculated to last very much longer.

These Springs and Buffers have now been tried for upwards of three years, under very able superintendence, and with the most decided success. They are in general use upon the principal lines in England and Scotland, (among which may be mentioned the Great Western, the Midland, the London and North-Western, the Eastern Counties, London and Brighton, London and Dover, North Staffordshire, and Caledonian Companies.) They are also used in other parts of Europe. The patentee, therefore, feels justified in stating that he is prepared to furnish not only a more efficient Spring and Buffer than any hitherto in use, but a more durable one, and upon terms which will effect a considerable saving to Companies.

The most satisfactory trials have been made as to the non-liability of this material being affected by extremes of cold or heat; nor will any amount of pressure permanently alter its shape or structure. The patentee therefore submits the invention to the public, with the confident anticipation of its successful and general adoption.

The patent for this invention was granted to Mr. W. C. FULLER, in October, 1846, and the same gentleman has patents for it in England and other countries in Europe. The sole Agent in the United States is Mr. G. M. Knevitt, who will show models and drawings of the various modes of application to *passenger cars*, *engines*, *tenders*, *wagons*, *etc.*, and give further particulars as to its satisfactory working; and is prepared to supply the Springs in any quantity, or to grant licenses for manufacturing them.

Principal Office, 78 Broad Street, New York.

And a Branch Office at Messrs JAMES LEE & CO.'S, 18 India Wharf, Boston.

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T.
Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { Fairbanks & Co., 81 Water st. N. York. A. B. Norris, 196 Market st., Philad.
April 22, 1848. 1y*17

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

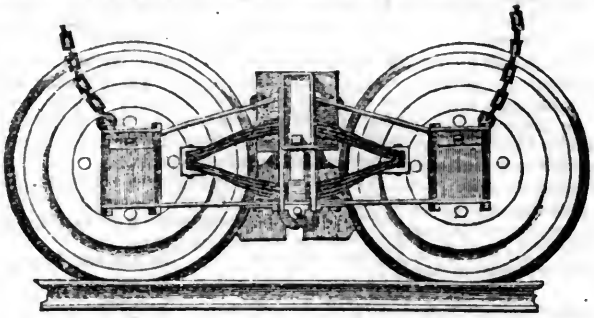
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.
May 6, 1848.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

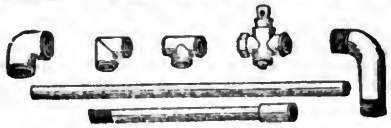
Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power. 1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ½ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paperea barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

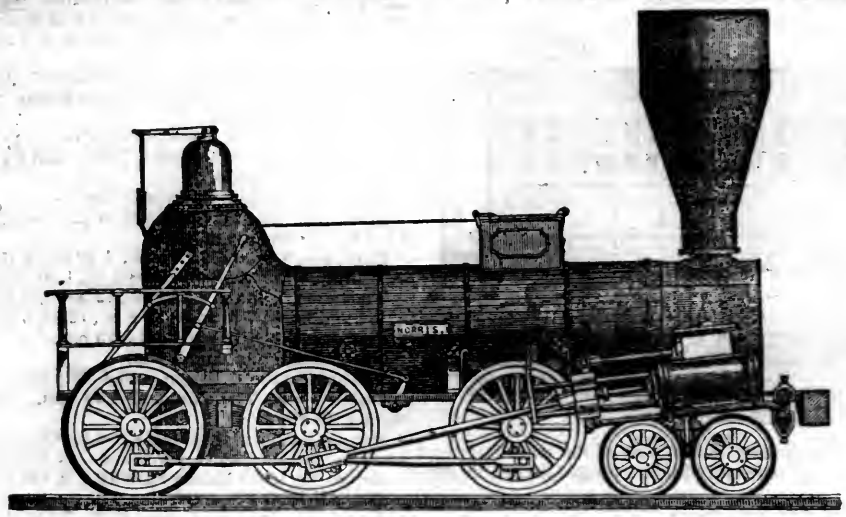
General Agent,

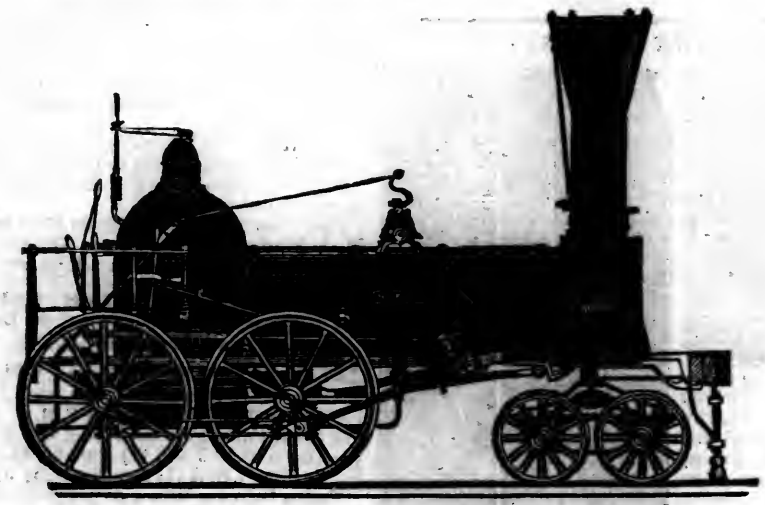
Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and dcspatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

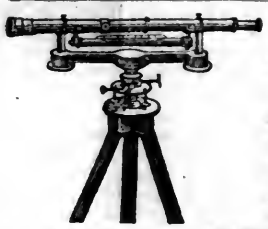
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y•21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

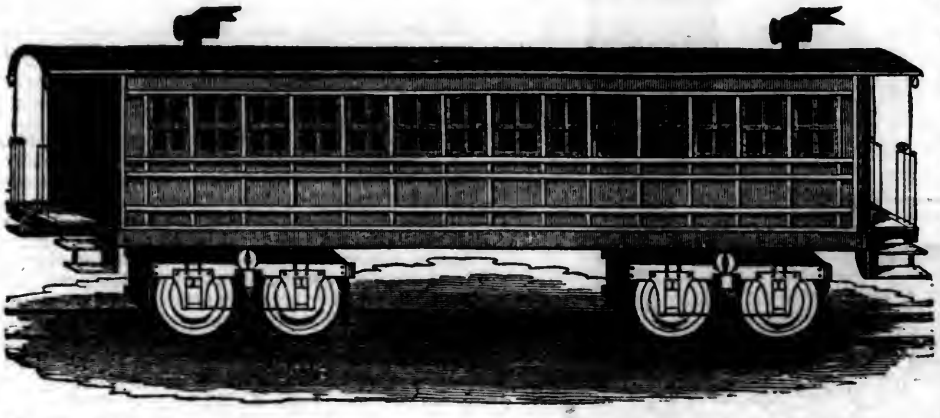
Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.





Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1,10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 18 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5½ p.m.

For Reading 7, 8½ & 11½ a.m., 2½, 4½, 5½, 6½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4½ p.m.

From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m

From Reading at 6, 7½, 9½, 11½ a.m., 1½, 4, 7½, 9½ p.m.

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.

Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, April 15, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelp'a.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, May 1st, 1848.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 10 a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Allyn's Point for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

321y S. H. P. LEE, Jr., Sup't.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31.1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock; connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western.....	101
Atlanta to Oothcaloga—Western and Atlaniic..	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....	0 20 pr. 100lbs.	35
Crockery, per cubic foot.....	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....	1 25	1 50
Ploughs, (small,) and Wheelbarrows.....	0 80	1 05
Salt, per Liverpool Sack.....	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

17tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight pavable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia. April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.



This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
.y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, Jr.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN, ELIJAH PACKARD, ISAAC MILLS, } SPRINGFIELD, MASS.

1y48

LAP-WELDED WROUGHT IRON TUBES

for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One column " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 26.] SATURDAY, JUNE 24, 1848. [WHOLE No. 627, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, June 24, 1848.

☞ TO THE SUBSCRIBERS to the Railroad Journal we would say a few words.

In number 14, of this volume, we made an *appeal* to those who receive the Journal, calling upon them to aid in *extending* its circulation—and also upon those in *arrears* to remit the amount *due*—including *current year*, to enable us to make the Journal more useful, and more profitable.

To that call many, to whom it was addressed, have promptly, and generously, responded—and to whom we desire to express our *thanks*. There are many others, however, to whom that appeal was addressed, and to whom bills, and a circular were sent, who have not yet responded—who have not even acknowledged their receipt. We are, therefore, under the necessity of again calling upon those to whom bills were sent, in April and May, for the amount due, *including the current year*. The amount, of each individual account, is a mere *trifle* to the subscriber, but *one* or *two hundred* of them being *withheld* for one, *two*, or THREE years, as is *now* the case, will *ensure the discontinuance of the* publication at the *close of the current volume*—January 1st, 1849—we therefore *again appeal* to the friends of the *Journal*, and of RAILROADS, to aid us in *sustaining* it, by a prompt remittance of what is due, as per bills *rendered, and to be rendered immediately*, and by extending its circulation.

Cast Iron Railroad Chairs.

We ask the attention of those interested to the following advertisement of the Hudson River railroad company.

HUDSON RIVER RAILROAD COMPANY. Notice for Proposals for Cast Iron Chairs.—Sealed proposals will be received by the Directors of the Hudson River Railroad Company, at their office, No. 54 Wall street, until the 15th day of July next, for one million pounds (equal to 500 tons) of Cast Iron Chairs. The proposition to specify the price per pound, or per ton, delivered on the line of said Railroad, at such wharf or wharves in common use as may be designated by the Chief Engineer in the employ of the said Company.

The Chairs to be cast from re-melted iron of a good quality, that will make smooth and tough castings. A sample of the castings may be seen at the office of the company in New York, and at the engineer's office in Poughkeepsie. It will be required that the Chairs, in all particulars, as to dimensions and quality of iron, be according to the pattern furnished, so as not to require chipping to receive the rails, nor allow the rails to set too loosly in the chair.

The Chairs to be delivered, one-third in the month of November next, one-third on the opening of the navigation of the Hudson next spring, and the balance by the 15th of April next.

The party to any proposition that may be accepted, will be required to enter into contract immediately after the acceptance of the same. The Directors reserve to themselves the right to accept or reject proposals that may be offered, as they may consider the interest of the company to require.

A. C. FLAGG, *President.*

JOHN B. JERVIS, *Chief Engineer.*

New York, June 14th, 1848. 4t26

The Mad River and Lake Erie Railroad.

This road is beginning to do a very good business in the way of passengers—the cars coming in well filled, every day. Yesterday and the day before, says the Sandusky Clarion, there were near 150; and the steamboats have been well filled on their downward trips.

Mine Hill Railroad.

We learn by the Sunbury Gazette, says the Keystone, that the Mine Hill railroad company, which received a grant, at the last session of the Legislature, to extend their road into the middle coal field, are about to avail themselves of this privilege. It seems that they have employed Solomon W. Roberts, Esq., who is highly spoken of as an engineer, to run and locate a road from Coal Castle, the present termination of their road, to Shamokin. The distance from Coal Castle to Ashland is about 12 miles. From Ashland to Shamokin, where the Sunbury road terminates, is about the same distance.

So that the construction of a road of about 24 miles in length, would connect the Susquehanna, at Sunbury, with Philadelphia. This portion of the road runs through one of the richest coal regions of Pennsylvania, and would consequently yield a very handsome dividend to the stockholders. There can be no doubt that this road will be completed in a very short time.

Post Office Department and the Railroads.

We are pleased to learn that the senate committee have reported in favor of, and offered a joint resolution, which has been passed by a large majority, requiring the postmaster-general to make arrangements with the Richmond, Fredericksburg, and Potomac railroad co., for carrying the mail as usual.

This is just as it should be, and we hope the house of representatives will promptly concur—that we may again have some regularity in the mails.

Since writing the above, we have read the report of the committee, which comes to precisely the conclusion that we should suppose an honest man, seeing the whole matter, without prejudice, would come to; and the following extract from the report, which we may publish *entire*—gives to the postmaster-general a wholesome rebuke, which would induce a *high-minded gentleman* to resign his post at once—but such will not be its influence on a *man* who lets his *passions*, and *prejudices*, urge him into a course of measures—under the plea of *conscience*—injurious alike to the people, whose *servant* he is, and to the department over which he—in an unlucky moment—was called to preside.

The extract referred to is as follows, viz:—"Upon the whole, therefore, it is very clear to the committee, that the postmaster-general was not restricted by a proper construction of the law, to $337 50 per mile, which was his offer to the Virginia company. And, though they give him credit for a vigilant watch over the interests of the department, and are sensible how easily incorporated companies, as well as individuals, may be induced to demand of the government more than a service is really worth, they must think that he would have consulted the requirement of the law, the economy of the public money, and the efficiency of the mail service, by renewing the contract with the company for the same sum as that which he had been paying for more than two years after he came into office."

Pennsylvania Central Railroad.

The Harrisburgh Pa. Keystone says that the work upon this important improvement is progressing steadily. Many portions of it between this point and Clark's Ferry, are graded and ready for the superstructure, the materials for which are being rapidly delivered. The stone work of the bridge across the Susquehanna, five miles above town, is in great forwardness and will soon be finished. Several thousand hands are at work between this and Lewistown, and the contractors to whom the work has been let, from that point to above Huntingdon, are preparing to commence operations. The remainder of the entire line, thence to Pittsburg is either located or in process of location. Our Pittsburg friends, who have decided upon so liberal a subscription, may therefore be encouraged with the cheering prospect of soon being united with us by railroad. The idea of bringing such good neighbors so near, and of multiplying business relations, with them, is certainly gratifying to us in the east.

Extension of the Baltimore and Ohio Railroad.

"The preliminary surveys being sufficiently advanced, says the Baltimore Patriot, we learn that the directors of the Baltimore and Ohio railroad company have secured the services of Capt. Child, the eminent New England engineer, and of Jonathan Knight, well known in this community, who, in conjunction with Mr. Latrobe, the chief engineer, have already entered upon their duties, and are to proceed forthwith to *locate the route, and recommend the best plan of construction for the extension of the railroad within the limits of the charter.*

"It is understood that the expediency of extending the road from a point east of Cumberland, will receive the peculiar consideration of the engineers, as presenting not only a route in all respects feasible, but, unless the right of way through the city of Cumberland could be obtained upon reasonable terms, cheaper than a line projected from the depot in that city.

"We are glad to perceive this earnest of a determination by the board of directors to spare no exertions to adopt the best line, and most approved plan of construction of this road, and, at the same time to press our great work forward with the utmost practicable despatch. We do not doubt that in the reputation and skill of the engineers selected, the stockholders have a sure guarantee of a safe and judicious result."

Central Railroad and Banking Company.

"This company has declared, says the Savannah Republican, a dividend of $2 50 per share for the last six months. We learn that, after appropriating $20,000 to pay six months dividend on guaranteed stock, and the sum of $10,000 for new heavy iron rails, and giving the above general dividend of $2 50 for shares, there is a surplus of over $10,000 on the operations of the last six months. The order for new bridge rails for ten miles of road, or to the amount of $40,000, was sent out about a month since. The new rails will weigh 45 pounds to the yard, and will be purchased on the most favorable terms. This is the commencement of laying down heavy rails for the flat bar iron, still in use on one-half of the road. Every cent of expense so incurred will add so much to the actual value of the stock. We congratulate the stockholders of the Central road on the dawn of more auspicious time. The cancelling of the debts of the road, and payment of dividends, has been already attained. We do not doubt that these dividends will be permanent, while repairs on an improved plan have been going forward with certainty and regularity during many years past."

Wilkes County, Ga. Railroad.

The Marietta Advocate of May 30th, noticing the subscription by our city council of Savannah of $60,000 to the Wilkes road, so as to secure a connexion of the Georgia and Central roads—remarks:

"The object to be attained by Savannah is the connection between the two roads. No movement has taken place recently so important to the interest of that city. To the up-country of North-western Georgia also, it is especially important."

Referring to the delays occurring at Macon and Augusta, because of the transfer by drayage, from one road to the other, at those places, the editor says:

"The connection will be made at no distant day, if not by one route, then by another. The people of the interior demand it; they are determined to have a continuous railroad line either to Savannah or Charleston."

Most assuredly they will—and *to the waters edge at* those ports also. There may be delays in accomplishing these desirable objects—but they are sure to be attained in the end—therefore it should be done *now*—without delay.—[Ed. R. R. J.]

Principles of the Mechanics of Machinery and Engineering.

We are indebted to the publishers, *Messrs. Lea & Blanchard* of this city, for a copy of the first volume of "Weisbach's Mechanics and Engineering," American edition, edited by Walter R. Johnson, A. M. civil and mining engineer.

This work has been got up in excellent style, printed on *good* paper, with fair type, and is illustrated by 534 well executed wood cuts, and it will be found useful to every engineer, but especially to those who are but new beginners.

It must not however be inferred, from what we have said, that it is designed only for professional men, as it will be found equally useful to every man who has a desire to understand the *reason for, or "cause why"* of many things with which he is familiar.

It is divided into six sections, as follows, viz:—

1*st. Phoronomy, or the pure mathematical science of motion.*

2*d. Mechanics, or the physical science of motion in general.*

3*d. Statics of rigid bodies.*

4*th. Dynamics of rigid bodies.*

5*th. Statics of fluid bodies.*

6*th. Dynamics of fluid bodies.*

The volume contains 480 pages, which are divided into 394 sections, nearly all of which have one, or more illustrations.

The author says "the mechanics of engineering and machinery" must not be taken for a work on the construction of machines, but it is to be considered merely as an instruction to, or preparatory science for this.

This Treatise of Mechanics is to stand in the same relation to the construction of machines, as descriptive geometry stands to the drawing of machines. After mechanics and descriptive geometry have been learned, the instructions on the construction, and the drawing of machines may, with advantage, be united in one course.

We shall look with some interest to the publication of the second volume.

It contains comparative tables, of *English, French, and German* measures and weights, which will be found convenient and useful.

The first link between the Lakes and the Atlantic.

The Toledo Blade gives an interesting account of the arrival extraordinary of the first Atlantic steamer at that port. This vessel will run from the Ocean to Chicago. Her arrival is an area in the history of the West. It heralds internal trade, when combined with our mighty rivers, which has never before existed on earth. The Blade says:—

"An Atlantic steamer, the "Free Trader," lies in our harbor. She arrived this morning from Montreal, which port she left on Wednesday of las week, stopping by the way at Hamilton, on Lake Ontario, and Port Stanley and Cleaveland, on this Lake, making the trip, exclusive of stoppages, in less than six days. The Free Trader is built expressly for Lake and Atlantic trade, and will run as occasion requires, to any ports between Halifax, Nova Scotia, and Chicago, Illinois. What a world we live in! Here is over two thousand miles of river, canal and lake navigation, for vessels and steamboats of a respectable size; and the vast increasing products, of our Western El Dorados, can be transported from the extreme end of Lake Michigan, to any port of the world, with but a single transhipment on the Atlantic sea board.

The Free Trader has a capacity for the stowage of 3500 brls. flour; is propelled by a low pressure engine of 75 horse power, and her speed is twelve miles per hour. Her engine is placed in the stern, so as to enable her to make a free passage through the Welland Canal. She is owned and was built by Messrs. Hooker, Horton & Co., of Montreal, and was launched three weeks since. Success to her.

Reading Railroad.

We find the following remarks, in relation to this important work, in the Ledger of the 15th. It appears that the desired object—the conversion of bonds to the amount of $3,500,000, into stock—has been *nearly* accomplished. This is an important measure for the company—though it be a *preferred* stock, drawing seven per cent. interest, before the previously issued stock draws a penny—as it relieves them from the obligation to *liquidate* within a few years, a large amount of indebtedness; and it is equally important to the bondholders, as it will give them seven instead of six per cent., and will enable the company hereafter to make dividends to all its stockholders, at least equal to seven per cent. The Ledger says:

"At the meeting of the stockholders of the Reading railroad company in this city yesterday, the law authorizing the conversion of the bonds of the company into preferred stock was unanimously accepted, and the conversion, we understand, has been nearly consummated. Preferred stock was also authorised to be issued for the amount of the company's floating debt, so that there is nothing now in the way of payment of dividends from and after the 1st of January next. The confusion and difficulty heretofore arising from the appropriation of the current receipts to permanent improvement is not to exist hereafter, a resolution having passed, directing the officers of the company not so to apply them for the future, but to devote the whole receipts to payment of interest and to dividends on stock. As the company's affairs now present a clear surface, we shall probably soon know something of the road's real productiveness. The meeting was full and harmonious, and in some remarks by Mr. Derby, a Boston stockholder, it was stated that the road was doing as good a business as many of the best English railroads. A desire to cultivate friendly relations with the Schuylkill navigation company was manifested by the speaker and the meeting, and the time, we think, is not far distant when a mutual understanding will govern the whole of the companies connecting the great coal fields of this State with tidewater, to the great pecuniary advantage of them all, and at no great additional cost individually to the consumers of anthracite coal. Considering how much the owners of the Reading railroad and of the two navigation companies have suffered in pocket, and how much the public have gained in the cheapened price of fuel from

their enterprises, it is but reasonable and just that they should henceforward receive such rates of toll as will fully remunerate them at least for all money expenditures."

If the managers of the road will profit by the advice of Mr. DERBY, a stockholder from Boston—and one of the most *intelligent, liberal, far-seeing* and *judicious* men of that enterprising city, and of this country—they will be able, we hope, to bring about a system of amicable and equitable arrangements with the navigation companies, which shall ensure to the immense capital invested in works—*mainly for the reduction in the cost of fuel*—a fair and liberal return. This *should* be and *may* be.

The Railroad.

"At a meeting of the stockholders of the Burlington and Mount Holly, N. J., railroad company, says the Burlington Gazette, held at the latter place, on the 30th ult., the following gentlemen were elected directors for the company:—

"Thomas Milnor, George Gaskill, Thomas Dugdale, John C. Ten Eyck, Robert D. Spencer, Abraham Brown, John S. Irick, Wm. N. Lacey.

"The directors then proceeded to hold an election for the remaining officers, when Charles Bispham, Esq., was elected president, and George Gaskill secretary and treasurer.

"An executive committee was appointed, to confer with engineers and contractors, and to urge the immediate completion of the road. The work will be pushed with vigor, and the probability is, that it will be completed, and the cars running by Christmas. The utmost confidence is felt in the productiveness of the stock. As an evidence of this, we may mention that at the meeting, on Tuesday, one gentleman offered to take the charter and build the road himself, and his experience in such matters, as well as his ability to fulfil his engagement, are well known to the community."

Camden and Amboy Railroad.

Its Privileges and its Abuses.

The course pursued by this gigantic monopoly—*mononoly* because its charter prevents *other* railroads being built, and therefore prevents *competition*, or *rivalry*—is attracting the attention of the *independent* press.

We find in the Dry Goods Reporter of the 17th, a well written article, and *scorching* rebuke, upon the members of the *New Jersey legislature*, and those editors who *pass free* over the road, for their course in relation to this company. The editor says,—

"We have had occasion to pass over the New Jersey railroad several times during the last few weeks, and have been surprised that, where so universal a feeling of indignation exists against a corporation so notoriously extortionate as this is felt to be, that so little has been done. We, however, came to the conclusion that if any reform was effected in the present exorbitant charges for freight and passengers, it must originate with, and be carried thro' by, citizens of other States; to expect anything in the shape of assistance in breaking up this monopoly from the citizens of New Jersey, is useless and worse than useless, it is a waste of time as well as money. The legislature of New Jersey were seduced into the granting of the charter of a railroad through that State by a bribe of $30,000 in stock, which was guaranteed never to yield less than seven per cent.; and although they passed laws regulating the price at which passengers and freight should be carried across their territory, with a transit duty of one dime each, yet they appeared to have legislated under the idea that no one but a Jerseyman would ever have occasion to use the road.

"Immediately upon the construction of this road, an association was formed called the Napoleon company, which established a line to take passengers from the borders of New Jersey to Philadelphia, and vice versa to New York; and thus we find that if a passage is paid on the Jersey shore, two-thirds only of the passage money is taken. They dare not take more on the Jersey soil * For this reason, an office is established in New Yo k. And in returning, we are obliged to pay on board the boat previous to our arrival in the waters of the State of New Jersey.

"Editors, who should be the guardians of the rights of the public, are lulled to sleep by the presentation of free tickets, and the company's advertisement. Members of the legislature have the same boon accorded to them. Citizens of New Jersey are beguiled by the same means, although indirectly—and the merchants of Boston, Philadelphia, and New York, are obliged to foot the balance."

The editor of the Reporter is not quite accurate here. The bonus was at first $100,000 in stock, *ten* cents on each passenger, and fifteen cents on each ton of goods passing over the line, and a guarantee that the amount received by the State should not be less, in any one year, than $30,000! but in 1832 the bonus was increased by another $100,000 of stock, and last year the amount paid to the State for the *original* privileges, and the *additions* to them since granted, was *eighty-one* thousand dollars.

True as the editor remarks, the merchants of Boston, Philadelphia, and New York, and their customers, have to bear the losses, arising from the extortionate charges—but the people of New Jersey are equal losers by the depressed value of their property and products, for want of competition.

It seems, also, that the writhing of the victims under the heel of oppression, is operating upon the public mind, as we perceive a *counter* current beginning to set.

A writer, who appends to his article the initial D, attempts, in the "city items of the 17th, to *excuse* the company for their continued extortion and oppression, by saying that the work" was commenced and constructed at a period, and under such restrictions by the State, as rendered it problematical—whether the road would not be a *losing concern in the first years of its operation*"—but we like to let people tell their own story—especially when they are engaged in a bad cause—therefore we give D. the full benefit of *our* circulation, without being invited—and assure *him*, and the company, that the columns of the *Railroad Journal* are, and have *always* been open to them.

"*Camden and Amboy Railroad.*—The new arrangement upon this line, by which a mid day train is run at the reduced price of *three dollars*, meets with general approval, and we are happy to learn that all due credit is given to the company for their spirit of accommodation to a travelling public. Much has been said against the road in regard to its apparent monopoly and high rates of charges. And complaints have been made of many of the officers connected with the running of the trains, which at one time appeared likely to produce an unfavorable prejudice against the road in the minds of those who were willing to rely on hearsay, without judging for themselves.

"Now, in regard to the charge of monopoly and extortion, we have a word to say. There are always found in every community, plenty of croakers and cavilers, whom to please would be a miracle, and to convince by argument a moral impossibility. These men look at the surface of things, and predict facts on appearances, without troubling themselves to examine whether their premises are well founded, or their conclusions correct. From some fancied injustice they may think themselves to have endured, they raise a superstructure of complaint, which at first, appears as if erected by the entire community, but which, viewed closely, is ascertained to be but a harmless fabric of clouds and shadows, that a breath of *real* public opinion dissipates into thinnest vapors.

"The Camden and Amboy railroad was constructed at a period, and under such restrictions by the State, as rendered it problematical whether the road would not be a losing concern in the first years of its operation. At that time, and when it was completed, the undertaking was looked upon by all our business community as a hazardous, though eminently beneficial enterprise. It required immense energy and public spirit to carry the project through, and the act of incorporation is probably one of the most stringent on record. But the scheme was conceived by determined men, and carried into effect with a spirit of enterprise that could not fail to insure success. Immense sums were invested, and arduous labors undergone, to render the road worthy of public support. It was a popular undertaking, which the present company, first of all the community, embarked in and resolved to sustain.

"Had the project resulted in a failure, and the amount of travel and transportation been found inadequate to meet the expense of the road, the company would nevertheless have been entitled to the greatest credit for their energy and enterprise, while Philadelphia and the whole State of New Jersey would have suffered incalculable injury in their business operations. As it succeeded, however, and became a great and beneficial medium of traffic and travel, why should not the projectors reap the reward of their industry? Why should they be denied a share in the benefits which the road has conferred on the community—at least for the period of their charter? D."

It is no *new* thing for those, who are *systematically* oppressing the masses, to accuse their victims of *ingratitude*, whenever they attempt to exact justice from their *oppressors*.

"D." says there are always found in every community plenty of *croakers* and *cavilers* whom *to please would be a miracle*, and to convince by argument, a *moral impossibility*.

At all events he is correct in *this* case—however it may be in others. There will surely be "*cavilers* and *croakers*" as long as the company are *five* hours, and charge $4, or even $3, for 88 miles over *the most favorable* route in the Union, of equal length, not only as to the *make* of the ground, but also as to the amount of travel and business which would pass over it if properly managed. And we doubt exceedingly whether *many* of those who are *victimized* will be convinced of the *propriety* or *justice* of the system which prohibits a *fair competition*, in such an immense business, between the two largest cities in the Union, by any arguments *yet* put forth by "D." He must find something more conclusive, and pungent, than his attempt to show that, in 1832, the *proprietors of this road had any doubt of its success! They*, or *some* of them, at least, will laugh in their sleeves, when they read *that* paragraph. "D." is probably a man of the *present* generation—not familiar with the past age—or he would have known that the *projectors*, and *early* proprietors, or large shareholders, were *the fathers of the railroad system*—were the *first* to *plan*, and the *first* to *advocate* the *construction* of railroads in *this* country—*long* before the system was *adopted* in England, as a medium of *general* business. If he will refer to the first vol. of the *Railroad Journal*, and to one of its *early* numbers, he will find that COL. JOHN STEVENS, of Hoboken—*one of the ablest and best men of his age*, and the *father* of the New Jersey railroads—as well as of *several able sons*—presented his views, with descriptions of *railroads* and *steam carriages*, for *travel* and *transportation*, to congress, as early as December, 1811!! or more than *twelve* years before the Liverpool and Manchester railroad was even *talked* about. Yet the Liverpool and Manchester railroad was in successful and profitable operation, when the year 1830 *dawned*. Yet the *Camden and Amboy* railroad had not then been chartered!!!. Yet "D." says, "had the project resulted in a *failure*, and the amount of *travel* and *transporta-*

* *Is this so?* We believe that $4 is collected *at* Jersey city, and *in the cars*, after leaving Jersey city—when one escapes the first scrutiny.

tion been found *inadequate to meet the expenses of the road,*" etc—a supposition as *absurd* to the originators, as it would *now* be to suppose that a reduction of the rates of travel, and transportation, to a *reasonable rate*, with a proper *increase* of speed for passengers, would reduce the receipts, and net profits of the company.

But as the subject is to be again referred to by D. in that excellent paper, the "CITY ITEM," we will defer further comment for the present.

Railroads in Illinois.

"The bill which has recently passed the senate of the United States, making a donation to this State of a quantity of public lands to aid in the construction of a railroad from Cairo to Chicago, and from thence to some point on the Mississippi, with branches to Alton, and Covington, equal to every alternate section for six miles wide on each side of the said road, we are assured," says the Chicago Democrat of 26th May, "will pass the house of representatives and become a law.

"This grant of lands will have a controlling influence upon the destiny of this State. It will enable us to make an arrangement with our internal improvement bondholders for the construction of the railroads, and at the same time furnish means for the liquidation and extinguishment of the balance of our State debt. The facilities which these railroads will furnish for travel, and transportation of merchandise and agricultural productions, will build up large towns and cities in our State, and connect them together by the ties of commerce, and the benefits of rapid communication. Millions of acres of rich and fertile land, which lay waste and uncultivated, in consequence of its distance from market, will now be quickened into life; the solemn silence of our vast prairies will be broken, and they will soon resound with the hum of business, and teem with the golden harvest of our husbandmen. Our population will increase beyond all former precedent, and the wealth and solid capital of the State will be augmented to tenfold the cost of these railroads, by the enhanced value their construction will give to property within their vicinity.

"The bill, granting these lands, is the most just and liberal appropriation ever made by the senate. Most ably and discreetly did our senators, Judge Breese and Douglass, bring forward, and advocate and triumphantly carry this measure through their branch of the national legislature. The masterly report made by Judge Breese, as chairman of the committee on public lands, carried conviction on its face, and had so powerful an influence, in allaying and obviating all objections to the bill, that it passed the senate by more than two-thirds majority.

"Our senators are both deserving of equal praise, they devoted all their own strength and energies in obtaining for this State the greatest boon ever conferred upon it; a grant that will do more than all former legislation to promote the growth and prosperity of the State, redeem it from debt, elevate it to the proud ranks of the paying and solvent States, and make Illinois the Empire State of the West.

"The people will not be ungrateful to public servants who have done the State such service. If this bill becomes a law, (of which there is little doubt,) great and important duties will devolve upon the next general assembly of this State, in the adoption of the most wise and judicious measures to carry into effect the object of this grant. These lands must be preserved from the spoliation of speculators—from the perils of hasty and inconsiderate legislation—and sacredly devoted to the purpose for which they were intended. Undoubtedly our next legislature will be composed of men worthy and competent to be the guardians of such important interests."

Locomotive Engines.

New plans for locomotives are constantly offered to the inspection and use of railway companies. We find in the London Mining Journal of the 15th April two of these new plans, one of English and the other of French origin—and shall give them both a place in the Journal that our readers may have the benefit of all the new plans on this very important subject.

IMPROVEMENTS IN LOCOMOTIVE ENGINES & CARRIAGES,

[*Specification of patent granted to James Pearson, of New Cross, engineer, for improvements in locomotive engines and carriages. Patent dated October* 7, 1847.]

The improvements, which form the subject of this patent, as set forth in the specification thereof, are illustrated by three sheets of drawings; but as the leading features of the invention are without complexity, the nature of these improvements may be thus briefly described:—The first of these improvements relates to the boilers of locomotive engines, and consists in arranging, or disposing, the fire-box about equidistant from each end of the boiler, instead of at one end, as usually practised. This is effected in the following manner:—

Two short locomotive boilers, of the construction hereafter described, are placed end to end, so that their fire-boxes abut against each other, and are in this position connected together, so as to form one long boiler; the fire-boxes thus brought together forming one common fire-box, having two doors for supplying fuel thereto, and the upper part serving as the foot-plate for the engine driver and stoker. The axle upon which the driving-wheels are fixed passes through the fire-box, and beneath the said foot-plate; and the trailing wheels, which are eight in number, are arranged or disposed in two swivel frames (4 in each frame), beneath the body of each short boiler, or each half of the long boiler, formed as above described—such swivel frames being for the purpose of allowing the framing of the engine and wheels to adapt themselves readily to the curvatures of the line of railway. This is effected by the following arrangement:—The swivel frames, which carry the travelling wheels, are connected together at their inner ends by tension rods, the extremities of which pass through lugs, or projections, fixed to, or formed upon, each of the swivel frames, such rods being connected thereto by nuts placed upon the screwed ends of the tension rods; and, in order that the frames thus connected together should possess flexibility, the patentee employs washers, composed of short cylinders of vulcanized India-rubber, or other elastic material, placed between said lugs and nuts. The steam chambers are situate at each end of that part of the boiler near the fire-box, and are connected together by a horizontal pipe, the top of each steam dome, or chamber, being furnished with a safety-valve, and each extremity of the boiler terminating in a chimney; one having an exhausting fan, or blower, placed therein, for the purpose of exhausting or drawing the heated air from the tubes of the boiler—such fan being worked by a cross strap, passing over a rigger on one of the trailing wheels, or in any other convenient manner. The patentee states, that by this peculiar arrangement of the fire box, he is enabled to get the centre of gravity of the boiler very low. The drawings also exhibit coupled engines constructed on this principle—one of which shows an engine having two pairs of driving-wheels, and four pairs of trailing-wheels—the driving-wheels only being coupled. Another arrangement exhibits an engine having two driving-wheels, and eight trailing-wheels all of which are coupled together; and the same drawing shows the boiler as being constructed without a chimney, but having two fans—one at each extremity of the boiler, with a channel leading therefrom to the fire-box, for the purpose of exhausting the air from the tubes of the boiler, and returning the heated air again to the fire box, if necessary. To carry the fuel and water necessary for the working of the engine, the patentee proposes to make use of the space by the foot-plate, and to employ outside cylinders, for imparting motion to the engine. The trailing wheels are furnished with breaks, which are under the control of the engine-driver.

Another part of these improvements relates to the construction of railway carriages, and consists in forming the framework with independent swivel frames, which are connected together by one or more tension rods, in a similar manner to that before mentioned, with respect to the construction of locomotive engines. In conclusion, the patentee states, that he does not claim the constructing of locomotive engines and carriages with bogie, or swivel frames; but what he claims is—first, the form of boiler, exhibited by the drawing annexed to, and forming part of the specification, (before described); secondly, the constructing of locomotive engines and carriages with bogie, or swivel frames, in combination with tie rods, or connecting tension rods, and pieces of vulcanised India-rubber, or other elastic material, applied thereto, in the manner, and for the purposes, particularly described and set forth in the specification; thirdly, the application to the boilers of locomotive engines, of one or more exhausting or blast fans, for the purposes set forth; fourthly, the arrangements set forth and described, with reference to the construction of coupled engines.

Morris Canal and Banking Company.--Report for 1848.

Continued from page 391.

We were obliged to omit a part of this report last week, in order to dispose of other matters in type. We now give the remaining part of the late president's report, and add to it *statement A* of the *appendix*—not "*index*," as printed in last number—showing the cost of machinery for the new *inclined plane* constructed last year—*statement D*, showing the average time of the round trips of the boats on this canal—*statement E*, in relation to the use and durability of wire ropes in England, and this country—both for inclined planes and mining purposes—and *statement F*, in relation to *reservoirs* as feeders for canals.*

These three last statements, we think, will be interesting, and perhaps *useful*, to some of our readers.

The following "transportation account" will show the amount expended, and the objects for which expended, in conducting the current business of the company for each year, from 1845 to 1847 inclusive, and also the amount received from that business during the same time:

TRANSPORTATION ACCOUNT, 1845, 6, AND 7.

Transportation Expenses, 1845.

Lock and plane tenders' services, etc....		$9,847 65
Repairs of canal.....		5,653 99
Salaries.....		2,140 27
Expense account.....		622 33
Interest account.....		1,773 08
		20,037 32

Transportation Expenses, 1846.

Lock and plane tenders' services, etc.....	$11,661 20	
Repairs of canal.....	11,157 21	
" planes.....	15,068 67	
" locks, tools, etc....	4,052 91	
Strengthening banks.....	2,000 00	
Delaware ferry. Pomp. river aqueduct, etc.....	721 00	
Salaries.....	6,498 35	
Interest account.....	28,813 39	
Expense account, legal services.....2,126 06		
Commissions..... 697 50		
Travelling expenses. 925 96		
Transfer books.....1,035 00		
Rent, fuel, printing, stationery, etc.....2,184 06		
	6,968 58	
		86,941 97

* The appendix is necessarily omitted, and will be given in the next number.

Transportation Expenses, 1847.			
Lock and plane tenders' services, etc	11,468 32		
Repairs of canal	10,000 14		
" planes	21,299 02		
Loss and damages, breaks, etc.	3,368 90		
Expense account	2,120 80		
Salaries	4,280 52		
Interest	29,608 36		
		82,146 06	
			189,125 35
By earnings of the Morris canal, tolls, etc., in 1845	18,997 45		
Loss on the business for the year 1845.	1,039 87	20,037 32	
By earnings of the Morris canal, tolls etc., in 1846	55,019 23		
Loss on the business for the year 1846.	31,922 74	86,941 97	
By earnings of the Morris canal, tolls etc., in 1847	73,264 87		
Loss on the business for the year 1847.	8,881 19	82,146 06	
Three years' total receipts	147,281 55		
Three years' total losses	41,843 80		189,125 35

The deficit of $41,843 80 in the receipt to pay the expenses of conducting the business, and interest, it will be observed, occurred in the following proportions for each year, viz:

In 1845 the deficit was		$1,039 87
In 1846 " "		31,922 74
In 1847 " "		8,881 19
Total		41,843 80

Excluding the season of 1845, during which the canal was navigable but for a short time, the business of the two subsequent seasons may be usefully compared, to show that the results of neither should be taken as an indication of what the canal is capable of doing, even in its present unfinished condition, if adequately furnished with boats.

The trade of 1846 was carried on in the 108 boats belonging to the company, and the "flickers" before referred to. From the business of that year there appears to have been a deficit to pay expenses and interest, of $31,922 74.

The trade of 1847 was commenced with the same number of boats, but during the season, 64 others were purchased and run equal to about half the season; and the deficit to pay the expenses and interest was reduced to $8,881 19, thus showing a difference in favor of 1847 of $23,041 55, about half of which sum was produced by the 64 boats purchased, and the balance by an increased activity of the others, the canal being in better order, the boats were subject to less detention than the year before.

Since the close of last season, arrangements have been made by which about 50 other scow boats are to run on the canal during the next season, so that besides the boats engaged in the local trade along the line, there will be more than twice as many running from the commencement of the next season, as there were from the commencement of the preceding one. It is believed, therefore, that the revenue to be derived from the canal this year, will be more than sufficient to pay expenses and interest.

The accompanying statement B will show the tonnage transported on the canal during the last season—the amount and kind of property received at, and cleared from, the several places named on its line, and the amount of tolls received at each collector's office.

It is hardly necessary to state, that the movement of coal from the Lehigh valley, may, with safety, be relied on as the main source of trade for the Morris canal, if put in as good condition as any other route connecting it with the market. It is well known, also, that the market for the coal in question, is mainly at, and north and east of, New York.

For the amount of the anthracite coal trade of Pennsylvania, from its commencement in 1820, to 1847 inclusive, see statement C, from which it appears, that there was sent to market from the Lehigh valley last season, 643,612 tons—61,951 of which, came on to the Morris canal at its western terminus.

Of this amount, 17,885 tons were delivered at Newark, and the residue at the several places named on the line of canal. In a report of the Delaware and Raritan canal company, it is stated that more than 27,000 tons of coal were taken to Newark, via that company's canal, last season, thus making the whole amount delivered at Newark about 45,000 tons, and the whole amount delivered along the line of the Morris canal, including Newark, 90,000 tons.

Although the Morris canal has no competitor for carrying the coal consumed in the interior, yet the amount of that trade has hitherto been too inconsiderable to furnish employment, or to produce revenue enough to maintain it; and in attempting to participate in the trade referred to, at and east of Newark, it has been met by a competitor of greater power and capacity, on which the movement of property has been attended with less expense to the carrier. The consequence has been, that the small amount of coal carried to tide water, *via* the Morris canal, has been taken at prices that allowed the company only minimum tolls, below which there would have been no object for taking it. It is obvious, that this state of things must continue to exist until the canal is improved. In order to make the Morris canal as good an avenue as its competitor, for the trade in question, the following improvements should be made, a summary of the cost of which, is stated for each item, as taken from detailed estimates made by the company's engineer:

Enlargement to be completed between Newark and Jersey city, estimated to cost	$18,500 00
Reconstructing the remaining ten planes west of summit, at $21,000 each	210,000 00
Strengthening the ten old planes east of the summit, at $5,000 each, and two summit planes, each $1,000	52,000 00
New aqueduct over Pompton river	7,000 00
To raise the banks at all places where it has not been done, so as to hold 5 feet of water on each level	7,500 00
Ferry across Delaware river to be deepened to 5 feet at low water	5,000 00
Making a total of	300,000 00

By the expenditure of this sum, the canal would be rendered competent to pass boats from Easton to Jersey city, loaded with 70 tons—the average cargoes passing east, however, would not probably exceed 65 tons.

It will be observed, that the principal object on which it is proposed to make this expenditure, is the inclined planes. Without further explanation, the propriety of making a distinction between those east and west of the summit, may not be fully understood; the explanation is this.

By erecting new machinery at all the planes west of the summit, the best parts of the old machinery may be taken to the planes east of the summit, and substituted for similar parts at those planes, which are more defective. In this way, it is believed, the old planes east of the summit can be made strong enough, by the expenditure of the sum estimated, to pass at one operation, both sections of a boat down, loaded with 65 or 70 tons, and up, when loaded with 40 tons.

Although a boat could not be passed over the old planes when thus improved, as quick as over the new ones, yet it could be done in less than half the time now employed. That is to say, when the old planes are thus improved, four boats loaded with 65 or 70 tons, could be passed eastwardly per hour, and the same number westwardly, when not loaded with more than 40 tons each. At present, not more than two can be passed in either direction per hour, and those going east must be limited to 50 tons, and those going west to 40.

The new planes west of the summit could be passed without subjecting the boats to more than half the detention that would occur in passing a corresponding number of lift locks; so that the whole detention incident to passing all the planes, would not exceed that of passing the same number of lift locks.

It has been stated, that not more than two boats can, at present, be passed over the old planes eastwardly per hour, loaded with 50 tons each.

Allowing the canal to be navigable 200 days, and the boats to run 12 hours per day, and we have for the capacity of the canal, $50\times2\times12\times200=240{,}000$ tons per season; and the detention in passing the planes, while performing the round trip, will be 23 hours, or say two days for each trip. But when the canal is improved, as proposed, its capacity would be increased to $65\times4\times12\times200=624{,}000$ tons per season; and the detention in passing the planes would then be as follows—say 11 new planes at 5 minutes each, is 55 minutes, 12 old planes, at 15 minutes each, is 180 minutes—$(180+55)\times2+60=783$, or say 8 hours, instead of 23, which is equal to a reduction of $1\frac{1}{2}$ days in making the round trip. Besides those above noticed, for the last two seasons the detention incident to the failure of some part or parts of the old planes, have averaged quite $1\frac{1}{2}$ days for each round trip. Detentions of this kind, it is believed, will not occur after the proposed improvements are made.

By the improvements recommended to be made in the first instance, it would appear that the capacity of the canal would be increased from 240,000 tons to 624,000 tons

per season. That the average cargoes of the boats navigating it would be increased from 50 to 65 tons, and the time required to make the round trip over the canal would be reduced 2⅝ days.

With the canal thus improved, it would be competent to pass at least 500,000 tons eastwardly to tide water, besides the local trade along its line. Its ability then to participate advantageously in the through trade may be shown thus:

The Lehigh company's canal and slack water navigation extends up the Lehigh valley from Easton to Mauch Chunk 46 miles, and thence up to Whitehaven 26 miles—making in all 72 miles. It has sufficient capacity for the movement of 2,000,000 tons per season, as far east as Easton. Its locks, except a few above Mauch Chunk, have chambers large enough to pass two boats loaded with 70 tons each, at one lockage.

From Easton to New York, via the southern route—boats will be easier to pass on the Delaware division of the Pennsylvania canals to Wells' Falls, 35 miles, from thence via the outlet lock, through the Delaware and Raritan feeder and canal to Brunswick, 52 miles. From Brunswick the boats are towed by steam tugs to New York, 40 miles—making the whole distance

	Miles
From Mauch Chunk to N. York, via this route..	175
From Mauch Chunk to Easton.....	48
From Easton to N. Y., via Morris canal....	101
	149
Difference in favor of Morris canal, in distance.	26

The Delaware division of the Pennsylvania canals is of the same dimensions, and has no greater capacity than the Morris canal will have when improved.

The Delaware and Raritan canal is 60 to 70 feet wide, and 6 to 7 feet deep; but any difference between the cost of movement on it, and on a corresponding distance on the Morris canal, is not more than equivalent to the detention boats must be subjected to, at Brunswick and at New York, waiting for steam tugs to tow them, which is only done at stated times; and not oftener than once or twice per day.

Besides, boats passing between Brunswick and New York are subjected to considerable delays and risk, from stormy and inclement weather. Boats for that navigation have to be provided with covers or hatches, to protect them and their cargoes in rough weather, which render them heavier and more expensive to construct and maintain, and they consequently cannot carry as large cargoes as they could if confined to canal navigation, by about 3 tons.

It will therefore be seen, that there can be no material difference in the cost of movement between the two routes, as thus compared, other than that noted above in reference to the weight of cargo that could be taken by each, and the difference in distance; which in the round trip, when reduced to time, will amount to two days in favor of the Morris canal.

The prices for delivering coal at New York from Mauch Chunk, via the southern route, for the coming season, are as follows:

	Per ton.
Freight to boatmen.....	$1 10
Lehigh tolls.....	35
Delaware division tolls.....26	
Delaware division charge on boat at outlet lock..... 3½	
	29½
Delaware and Raritan tolls.....	25
Towing between Brunswick and New York.	15
Total.....	2 14½

The cargoes of boats carrying coal to New York, have heretofore averaged 62 tons, and the time employed in making the round trip, via Bristol, has averaged 24 days. The distance, via the outlet lock, is less by 26 miles, or 52 miles in the round trip. It is estimated that the trip will be performed in 2½ days less time—or, say it is performed in 21 days, then we have 62 tons×1·10÷21=$3 25 per day for the pay of the boatmen and use of the boat.

The round trip can be made between Mauch Chunk and New York, via the Morris canal, when improved, in 19 days, and the cargoes may average 65 tons. If we allow the boatmen the same price per day, we have 3·25×19÷65=95 per ton, and the cost from Mauch Chunk to New York, via the Morris canal, would be per ton,

Say for boatmen.....	$0 95
" Lehigh tolls.....	0 35
" Morris tolls.....	0 84½
Total.....	2 14½

The cost of transporting coal to Newark, via the southern route, is the same as to New York, while it would cost, via the Morris canal, 5½ cents per ton less than to New York; consequently, the Morris canal could compete for the Newark trade on equal terms, and charge 90 cents per ton toll.

It appears then, from this comparison, that while the tolls on coal, via the southern route, remain as now established, the cost of movement would be balanced between the two routes, by allowing the Morris canal 84½ cents per ton tolls to New York, and 90 cents to Newark.

The tolls being now 54½ cents per ton, via the southern route, which is 30 cents less than could be charged by the Morris canal, therefore, if the comparison in other respects should prove to be correct, then the trade, of course, would always be balanced between the two routes to New York, by adding, for Morris canal tolls, to 30 cents, such sum as may be charged for tolls, via the southern route.

Or, if it should turn out that boats could take no larger cargoes to New York, via the Morris canal than via the southern route, and that the same time will be required in making the round trip on each, then the trade would be balanced between them, by imposing such tolls on the Morris canal as should be equal to the sum charged for tolls and steam towing, via the southern route, which now amounts to 69½ cents per ton east of Easton.

Notwithstanding the elements of capacity, and those constituting the cost of movement, on the routes in question, have been thus analytically noticed, yet the following queries may be raised, which, if unanswered, might still leave doubts as to the results arrived at.

First.—As to the capacity of the canal.—It may be asked, What evidence is there that the round trips can be made between Jersey city and Mauch Chunk in two days less time, via the Morris canal than via the southern route?

For the answer to this question, see appendix D, which shows that the experience of the past fully justifies that conclusion.

It has been stated that the new plane No. 6 west, is competent to pass boats over the space it occupies, as quick as they are usually passed over a corresponding space on the contiguous levels, yet a detention of 5 minutes at each plane, has been allowed in the preceding comparison. It may be said, however, that the wire ropes will not be durable, and that the machinery will be expensive to maintain.

For the probability and amount of tonnage the wire ropes may be expected to pass. See appendix E, from which it appears the cost of perpetuating wire ropes on all the planes, will not probably exceed one and one quarter cents per ton on the whole amount passing over all the planes. As has been stated, the only material difference between the new plane, No. 6 west, and the three summit planes constructed since the present organization of the company, is, that the former has two tracks instead of one—has wire ropes instead of sprocket chain, and is provided with more power and strength than the others.—Except the expense incident to the failure of the sprocket wheels at two of those planes, in consequence of defects in their original construction; and of the chains not having been made strong enough—the cost of maintaining them has not exceeded $50 each per season for the last two seasons. Those parts of the new plane that are analogous to those not strong enough in the others, have been made more than six times as strong, while the strain on them will not be quite twice what the others have been subjected to. It is believed, therefore, that if the new planes are constructed of as imperishable materials as No. 6 has been, it is not likely the expense of perpetuating them (exclusive of the wire ropes,) will exceed that of perpetuating a corresponding number of lift locks.

Whether there has been, or can be, a sufficient quantity of water secured to supply the Morris canal, to pass a business of any considerable magnitude, may still be an unsolved problem in the public mind. The experience of the last two seasons, however, has furnished the means of its solution, for the particulars of which, see appendix F.

Before noticing these particulars, it is proper to state, that for any increase of tonnage above what passed over the canal last season, there would only be required an additional amount of water, to the extent of that discharged at its termini, by the locks and planes, in exact proportion to such increased trade. The leakage and evaporation from the canal must remain a constant quantity, whether much or little business passes over it. From a careful investigation of the subject, it has been ascertained, that quite eight

times as much water is required to provide for leakage and evaporation during the season, as would be required for 624,000 tons to pass the locks and planes at the termini of the canal.

Notwithstanding there was 42 per cent. more tonnage passed over the canal in 1847 than in 1846, and that there was 3 per cent. more water fell during the latter than the former year, yet it appears there was 8½ per cent. more water in the main reservoir on the summit, at the close of navigation in 1847, than at that, of the previous season.

This discrepancy is accounted for by the canal having become tighter, and less water leaked out of it in 1847, than in 1846, which was an occurrence to have been expected, as the old lining was mostly removed or disturbed by the enlargement.

It appears also, that there was water enough in the main reservoir, at the close of the last season, to have supplied the amount discharged at the termini of the canal, incident to the passage of 405,652 tons over its entire line—even if the old planes were used in passing it—by which more than four times the quantity of water is used that would be required if others were substituted for them like the new one at No. 6 west. This difference is mainly accounted for by the water at the new plane being used under a head of nearly its whole altitude, while at the old ones, which measure the discharge at the termini, it is not used under a head of more than one-fourth the altitude of those planes. Consequently, the water remaining in the main reservoir at the close of the last season, was sufficient to have passed more than 1,600,000 tons, if measured by the improved planes. But inasmuch as those planes would not require as much water to pass any given amount of tonnage, as the lift locks, it therefore becomes necessary to substitute the locks as the measurers of the water discharged at the termini—by doing which, we still find that there was water enough in the main reservoir at the close of the last season, to have passed full 1,000,000 tons over the whole line of canal.

For a considerable part of the season, a large portion of water reqired for the canal, is taken from other sources than the main reservoir on the summit. There can be, therefore, no reasonable doubt but that the company has now secured more water than will be required to pass 624,000 tons per season. Should the quantity now secured fall short of what may ultimately be wanted to pass a maximum business for the canal, there will be no difficulty in securing such additional quantity as may be wanted, at a comparatively moderate expense. It is estimated that by the expenditure of a sum not exceeding $50,000, other reservoirs can be constructed within seven or eight miles of the summit, on either side, into which would flow the water that falls on a larger territory than that from which the main reservoir is supplied.

That the canal will be competent to pass 1,000,000 tons eastwardly, when improved as proposed, so that its capacity shall be measured by its lift locks—it is only necessary to state, that there has been delivered at tide water, by the Erie canal, during the last season, nearly one and a half million tons—and that all the unenlarged portions of that canal are of the same dimensions proposed for the Morris canal, except that the former has but four feet depth of water, and the latter is to have five. The unenlarged portions of the Erie canal must, of course, measure its capacity, some of which are near tide water—they amount, in the aggregate, to more than half its entire length.

In reference to the trade that may be expected to pass over the canal when improved, it is only necessary to state, that there was sent eastwardly from Easton last season, via the Delaware division of Pennsylvania canal, (see canal commissioners' report)

Mineral coal.....tons.	487,208	
Other articles amounting to..... "	299,973	
		787,181
Via Morris Canal.—Mineral coal....	61,951	
Other articles amounting to.....	9,588	
		71,539
Total that passed E. from Easton last season..		858,720

By reference to the statistics of the coal trade from the Lehigh valley, it will be observed, that its average annual growth since the completion of the Delaware division canal, has been at the rate of about 20 per cent. per annum. If that trade should continue to increase in the same ratio for the next two seasons, it would be large enough to furnish the two avenues with more than 600,000 tons each per season. And if it should thus continue to increase, the time would not be remote when the maximum capacity of both those avenues would be required to pass it to market.

Whether the trade in question will continue to increase as rapidly as it has done, must, of course, be at present a matter of mere speculation. But that the Morris canal can be made to participate in that trade, to the extent of at least one-half of it, whatever the whole may amount to, (within the range of capacity that may be given to it,) is a proposition, the solution of which is attended with less difficulty.

It appears, then, that if the Morris canal was improved as proposed, it would be competent to pass eastwardly at least 624,000 tons per annum, and that then, it could participate advantageously in the through trade. And when the trade should require, it may be further improved, by substituting new planes for the old ones east of the summit. Its capacity would then be measured by its lift locks.

If we assume, then, that the local trade along the line, including Newark, would produce enough to pay expenses and interest, and 500,000 tons should be transported over the whole line to Jersey city, on which there should be charged only 50 cents per ton tolls, a net revenue would be produced of $250,000 per season, which would be equal to more than 6 per cent. on the par value of the stock.

The local trade, it will be observed, very nearly paid expenses and interest last season, and Newark was not half supplied with coal, via the Morris canal.

The local trade is a rapidly growing one, while the expenses would not be increased by passing a larger amount of business, after the planes are improved—as they would then require but very little repairs—while now the expense of maintaining the old ones is nearly as much as is required for all other purposes connected with keeping the canal in repair throughout the whole line.

From what has been stated, it appears that the canal and its appendages now stand charged with $1,542,242 21. That the property is in a condition to produce more than enough to pay current expenses and interest on its debt—that by the expenditure of a sum not exceeding $300,000, that property would be in a condition to produce a net revenue over and above expenses and interest, of more than six per cent. on the whole capital allowed by the charter, $4,100,000—and that when the trade should require, it can be further improved, by the expenditure of a sum not exceeding $300,000, by which it would be in a condition to produce a net revenue of more than twelve per cent. on its whole capital.

It is obvious, however, that these results cannot be realized within any reasonable time, unless the canal is improved earlier than it can be done, unaided, and applying only such net revenue to that object as it may hereafter produce.

Certificates having been issued for the whole amount of stock authorized by the charter, and a mortgage on the canal and its appendages having been executed, to secure the payment of the company's bonds, to the amount of 700,000—of which $423,350 were negotiated at par, (except a small amount in the "general account")—several structures that had been commenced, were then incomplete, and the canal unproductive—the credit of the company became so much depressed that these bonds could not be negotiated at par.

It then became necessary, to enable the company to meet pressing demands, again to negotiate further loans, for which it gave its notes to the amount of $77,806 50, to secure the payment of which, there was deposited with these notes $165,650, six per cent. mortgage bonds as collateral—thus making the whole amount negotiated and pledged $579,000. Therefore, until the amount pledged are redeemed, there remains undisposed of only $121,000 of these bonds—which are the only means within the control of the board, that it can apply to the improvement of the canal, and to secure the payment of such sum as may be required to meet existing engagements, prior to its being opened for the ensuing season's business.

Whether the canal is improved faster than it can be done from the sources above referred to, must, in the opinion of the board, depend on some united action of the stockholders, with whom only resides the power to furnish any other means to accomplish that object.

It is believed, that with the sum of $250,000, to be paid in monthly instalments, during the next twelve months, together with the net revenue that may be derived from the

canal this and the next season; the debts of the company that will become due this year, and the early part of the next, can be met at maturity—the bonds which have been deposited as collateral, redeemed; and the first proposed improvements made, in time to be used on and after the opening of the season of 1849.

All of which is respectfully submitted.

By order of the board,

A. WHITNEY, *President.*

OFFICE OF THE MORRIS CANAL AND BANKING COMPANY OF 1844.
Jersey City, March 17, 1847.

To be continued.

Galena and Chicago Railroad.

This work has attracted a good deal of attention, and we are gratified to learn that it has been fairly commenced, that the grading of over 40 miles of it is under contract, and progressing rapidly to completion.

The following report of the president of the company to the stockholders, shows both spirit and ability equal to the occasion, and we now look with confidence to its early completion, when the *city* of Chicago will reap a rich harvest from her easy connection with the rich agricultural and mineral region of Wisconsin, and the upper Mississippi country. We give the president's report entire, together with a list of the directors, as follows, viz:

To the Stockholders of the Galena and Chicago Union Railroad Company:

GENTLEMEN: In behalf of the directors, I submit to you, herewith, the accompanying report of John Van Nortwick, Esq., chief engineer, showing what steps have been taken, and what progress made in the construction of a railroad from Chicago to Galena, with exhibits of the estimated cost of the road as far as Elgin, and an estimate of the sources of income to be realised to stockholders from its construction. And I also submit, herewith, the report of Francis Howe, Esq., secretary and treasurer of the Galena and Chicago Union railroad company, showing the means and resources, amount of stock subscribed, and the receipts and expenditures of the company up to the present time.

Since the annual election of directors, on the 5th of April, 1847, the board have closed the contract with Messrs. Townsend & Mather, for the stock and lands of the company held by them, by issuing to them 100 shares of the full paid stock of the company, (not bearing interest, however.) *for the* 1000 *acres of land on the Des Plaines river*, and by agreeing on certain conditions, to issue to them another 100 shares of the full paid stock of the company, on the completion of the road to Fox river.

This arrangement placed the stock and charter entirely in the hands of the directors, and secured to the company about 1000 acres (a good portion of it timber) of valuable land on the Des Plaines river, situated about the point where the road crosses the river.

The timber on portions of this land, it is believed, will prove of much value to the company for purposes of construction, and in supplying their engines with fuel, it being situated just where it is wanted, and timber being scarce in its vicinity.

After concluding this arrangement with Messrs. Townsend & Mather, every obstacle being then removed, the board were prepared for decisive action, but, before opening their books for subscription, to the stock of the Galena and Chicago road, it was thought best to awnit the decision of the Michigan Central railroad company, as to the western terminus of their road, whether at St. Joseph or at New Buffalo.

Negotiations were opened with that company, favoring a terminus at New Buffalo; and steps were taken to secure the charter of the Buffalo and Mississippi railroad company, for the purpose, by means of it, (and the right of this company to extend a branch to the Indiana line,) of connecting the Michigan Central railroad with Chicago.

The Michigan Central railroad company decided to terminate their road at New Buffalo in July last, and steps were taken preparing the way for an extension of their road to Chicago about the same time. Upon this, your directors proceeded at once to announce their intention of opening books of subscription to stock, for the extension of this continuous line of railroad from Chicago westward to Galena.

Books were accordingly opened at Chicago and Galena, and at the towns intermediate, on the 10th day of August last, and about $250,000 of stock were then subscribed.

The first expectation of the board was to obtain a general subscription from the citizens of northern Illinois and southern Wisconsin, residing along the line of the contemplated road, and in its vicinity, as indicative of their faith in the profitable character of the road when constructed, and of the general interest of the people in its construction; and, with the aid of this subscription, to open negotiations with, and solicit other subscriptions or loans from eastern capitalists, sufficient in amount to justify the commencement of the work.

The amount subscribed, however, on the opening of the books, was so liberal, and the feeling manifested along the line, so ardent, and so universal, that it was quite apparent the country, and the people immediately interested in the construction of the road, were able to, and would increase their subscriptions to an amount sufficient, in connection with the credits on iron and engines then offered us, to built the road from Chicago to Elgin at once, and own it themselves.

Experienced parties at the east, largely interested in railroad stock, and decidedly friendly to the success of the Galena and Chicago road, were consulted, and made acquainted with the particulars of our position at this juncture, and with the proposed plan for obtaining the additional means at the east, necessary to secure the completion of the road to Fox river.

They were clearly and decidedly of the opinion, that the wisest and surest way to accomplish the speedy extension and completion of the entire route to Galena, was, for the inhabitants along the line of the road, to raise the means themselves, for its commencement and completion to the Fox river and Elgin, 41 miles, when there was every thing to assure us that the comparatively small cost of construction and extreme productiveness of the country tributary to the road, would secure such large returns as would enable us to command capital from any quarter on loans or increased subscriptions to stock for the extension of the road to Rock river, and to Galena, without delay.

This course was adopted, the object explained and approved by subscribers, and further subscriptions solicited and obtained on this basis of operation, to an extent exceeding altogether, the sum of $350,000 (about $10,000 of stock subscriptions have since been added,) and the work was commenced in earnest.

A corps of engineers was then (September last) immediately employed to survey and locate the line from Chicago to the Fox river, and prepare it for letting. The time occupied in doing so, has somewhat exceeded what was at first supposed to be necessary, and the road, except the first seven miles, was not prepared for letting until the 1st of March last, when the grading and bridging of the first 31 miles (inclusive of the seven miles let last fall,) was put under contract, and on very favorable terms, as will appear by reference to the report of the chief engineer herewith submitted.

By reference to that report, it will also be seen, that all the timber and ties necessary for the entire superstructure to Elgin, 41 miles, have been contracted for on favorable terms.

It has always been the desire and intention of the directors, to commence the road in a thorough and substantial manner, and if possible, with our means, to finish it with an edge rail, which all experience seems to have approved, as being greatly preferable, and in the end more economical.

A superstructure—cross ties—suited to such a rail has accordingly been adopted, and an edge rail will be procured if the means of the company shall prove sufficient to obtain it.

The extraordinary and ruinous financial difficulties of Great Britain for some months past, however, have served to tighten the money market of this country to such an extent, as to cause the withdrawal of proposals of credit on iron and engines, previously made to us, and to make it very doubtful whether the present resources of the company are equal to the purchase of an edge rail for their road, under circumstances, at all compatible with the resolutions of the board, not to exceed its means in any case, nor for any consideration.

Acting under this impression, amounting almost to conviction, the directors were induced as their only alternative to provide timber for longitudinal rails, to be placed for the time being on the superstructure of cross ties adopted for the edge rail, to receive a plate rail in the manner set forth in the accompanying report of the chief engineer.

It is also proper to remark, that many considerations suggestive of the propriety of adopting a flat or plate rail, in the first instance, as far as Fox river, have presented themselves.

In a country where money is worth as much as it is here, and where the means of a company are as limited as ours are, and the necessity for the immediate construction of a rail-road is so great, in consequence of the very bad character of our common roads, and of the great amount of produce to be transported over them; there are reasons favoring a commencement with a plate rail, which would not be entitled to consideration under better circumstances.

Should the future board find themselves at any time hereafter, relieved from the necessity of adopting a flat rail, in consequence of the fall of iron, or of increased funds or credit suited to their circumstances, they will, no doubt, avail themselves of a rail of greater weight and more improved form.

Upon the extension of the road beyond Elgin, a greater necessity will exist for a heavier rail, from the increased business that will result from such extension; and the flat rail, and the timber upon which it is placed between Chicago and Elgin, if used there, can then be taken up and relaid on a branch road to Beloit or to other points to which there will be occasion for branches.

From the report of the chief engineer, it will be seen, that the grades on that portion of the road between Chicago and Elgin are scarcely equalled on any other road in the country, the maximum grade going east, being but six feet, and going west, but twenty feet to the mile.

The character of the line, is also highly favorable, a great portion of it being in straight lines, and the few curves there are, all having large radii, requiring but trifling increase of power as compared with a straight line.

Owing to the champaign character of the country over which the road passes, and the consequent absence of any considerable floods in the streams it crosses, the cost of grading and bridging from Chicago to Elgin, and of the entire construction of the road, will be greatly less than that of most other roads, probably much less than that of any other substantial, well constructed road, of equal length ever built.

The chief engineer's report also shows the entire cost of this road, completed to Elgin, forty-one miles, and furnished with engines and cars sufficient to commence business, to be $342,000, less than $8,500 per mile, or about one-third the average cost of roads of like character in the State of New York, which fully accounts for the large earnings and dividends anticipated from it; for if it earns but 7½ per cent. on the average cost of similar roads in New York, it will pay over 22 per cent. on its actual cost.

It cannot have escaped the observation of all acquainted with the region of country to be affected by the construction of this important work, that if constructed now and extended east from Chicago, around the head of Lake Michigan till it meets the Michigan Central railroad, as it soon will be, it secures to the country through which it passes, the *great North-Western railroad thorough fare, for all time to come.*

No other continuous route of rail-road will ever be made to that great and rapidly improving country lying west and north-west of Lake Michigan, to the north of the southern end of that lake, if this road is established there first. No line to the south of it, near enough to compete with it, will be at all likely to be built while the business of the country can be prosecuted upon the road in which we are now engaged. Indeed no other line to the south of it can compete with it, for the trade and travel of more than half a million of people now at the north and west of it, and tributary to it; and the only struggle we have to secure all the great considerations and end we have in view, lies in the completion of the road to Elgin. Once finished to that point, it will promptly demonstrate its profitable character and usefulness and command the confidence of all, and the means necessary to ensure its immediate extension to its termination at Galena.

Our subscription list, numbering over twelve hundred subscribers, it will be seen by the secretary's report, exceeds in amount the sum required to complete the road with a plate rail to Elgin. Prompt payment by stockholders, generally, of all calls made to carry on the work, therefore, is all that is necessary to ensure the success of the road with our present means, and at an early day; and, as it requires nearly the whole amount now subscribed, to build the road to Elgin, it will be seen that our success depends upon payment by all of our subscribers, (with some few exceptions, where misfortune or death renders them unable,) of the amounts subscribed by them, and the protection of the rights and interests of those who do pay willingly and promptly, as nearly all do, will make it necessary for the board, in justice to paying subscribers, to require from those who have as yet failed to meet the calls made upon them, the fulfilment of the legal obligations assumed by them, to the extent of their subscriptions to the stock of the Company.

If a large overplus of subscriptions had been made, the few persons who might wish, from any cause, to forfeit their stock, might, perhaps, be permitted to do so, but, as our subscription but barely exceeds the cost of the road, it must be at once apparent to every one that all of our subscribers with the few exceptions named, must fulfil their obligations, upon the faith of which the company have undertaken the work, in order to ensure its success, and secure to those who do pay, the return for their money invested, which they have a right to expect, and which it will be incumbent upon, and the duty of the Board of Directors to take every proper means in their power to secure to them.

The interest of the whole country in the early completion of the road, however, will, it is not doubted, induce our stockholders, generally, to fulfil their engagements with little or no delay, by paying in the necessary calls on their stock, as made.

It is the desire of the present Board, if possible, to relieve their subscribers, temporarily, by making calls for instalments on stock to put twenty or twenty-five per cent. in all, until after harvest, or previous to the first of September next, and, by making temporary loans, meanwhile, to meet their wants through the summer. To enable them to succeed in this effort, however, it is absolutely necessary that the calls which are, and shall be made, be promptly met.

With assurances of every effort on their part, to execute the trust reposed in them, the board of directors look with confidence to their stockholders for that prompt and efficient support necessary to the success of the great work in hand.

W. B. OGDEN, *President.*

Chicago, April 5th, 1848.

DIRECTORS:

Chosen at the Annual Meeting of the Stockholders, April 5, 1848.

William B. Ogden, President; Walter L. Newberry, Charles Walker, James H. Collins, J. Young Scammon, William H. Brown, John B. Turner, Thomas Dyer, Benjamin W. Raymond, George Smith, Chicago; Charles S. Hempstead, Thomas Drummond, Galena; Allen Robbins, New York.

Secretary and Treasurer, Francis Howe.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 13th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	8,079 18	59,481 08
By Room Run	3,904 00	35,649 15
By Hazleton*	3,265 00	24,450 00
By Beaver Meadow*	332 16	21,198 10
By Spring Mountain*	3,331 00	17,998 06
By Buck Mountain*	1,389 11	18,993 10
By Cranberry Mines*	250 00	309 00
White Haven*	53 10	53 10
Total	20,605 15	178,133 19

* Week ending 10th inst.

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 15th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	11,598 15
" Pottsville	4,578 01
" Port Carbon	8,679 09
" Port Clinton	3,486 13
Total this week	28,342 18
Total this year	515,777 17

The amount of coal brought to market by the Schuylkill canal during the week ending the 15th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	10,294 13
" Schuylkill Haven	4,376 11
" Port Clinton	000 00
Total this week	14,671 04
Total this year	125,880 18

Recapitulation.—Total Shipments this Season.

By Lehigh companies	178,133 19
By Reading railroad	515,777 17
By Schuylkill canal	125,880 18
Total	819,792 14

NOTE.—The preliminary survey made, shows that grades of a character equally favorable, can be maintained all the way to Galena, with the exception of the last 10 miles, where a descent of 37 feet to the mile is found to be necessary.

Iron Railway Sleepers.

We find in Herapath's Railway Journal, of 29th April, a description of an Iron Railway Sleeper, with illustrations, by a *Mr. Greaves*, of Manchester, which we give herewith.

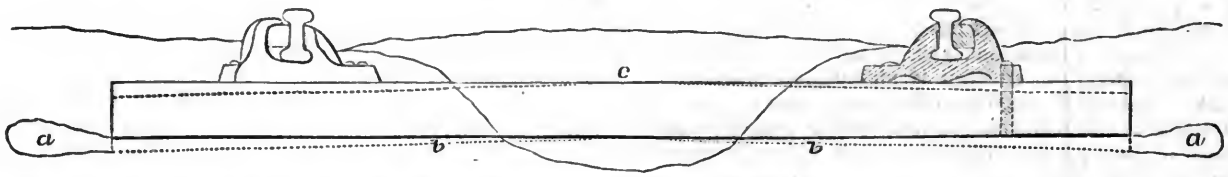
The *form* of the bearing part, is in accordance with a plan which has often occurred to us, but we thought it very difficult to give them a *bearing* sufficiently permanent. It is probable, however, that this may be done, and we now think that the only objection to a cast iron bearing is in the *first cost*—though they will, probably, be cheaper in the end. We should like to see them tried.

GREAVES' RAILWAY SLEEPER

Our attention has been given to a new sleeper, patented by Mr. Greaves, of Manchester, which, from the success of the trials that have been made, appears likely to come into extensive use upon railways. Mr. G.'s sleeper being made of cast iron, is expected to be more durable than wood, by whatever process it may be prepared to preserve it from decay. The chair is cast upon, and forms part of, the sleeper, and thus gets rid of the serious difficulty experienced in keeping the present cast iron chair firmly secured to the wood sleeper. From the peculiarity of its form, it appears to be well adapted to give a firmer support to the rail than the wood sleeper, while, from its having two surfaces to act against, an inner and outer one, it is almost impossible that it should be displaced by any lateral blow or pressure; but, in order more certainly to enable it to retain its position, and to preserve the gauge, the sleepers at the joints are connected together by means of tie rods of iron. The distinguishing feature of this sleeper, however, is, the facility with which it can be packed and re-adjusted from the surface, without removing or opening the ground around it, through two holes which are made for the purpose on the top of the sleeper.—The first cost of this sleeper, we are assured, does not much, if at all, exceed the cost of the wood sleeper, with the chair and pins to connect them together.

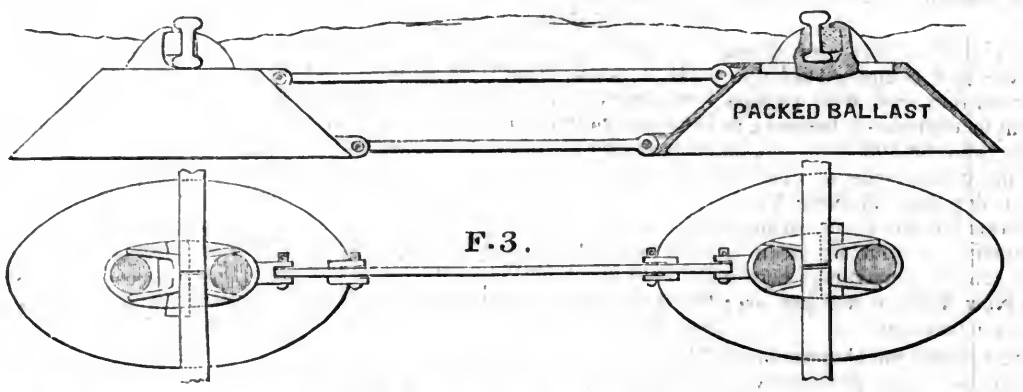
The following diagrams will enable our readers more easily to understand the subject. As stone blocks, however, have long since been superseded by wood sleepers, we need not dwell upon them.

Fig. 1.



The above sketch represents the wood sleeper, with the most approved modern chair fastened to it, by compressed oak tree nails. The dotted lines show the position of the sleeper on the transit of a train over it; the action and weight of the train have forced the ballast from underneath the ends of the sleeper in the position marked *a*, *a*, depriving the sleeper of its support at the ends, where it is most needed, and leaving it supported only in the middle. The effect of this is, that, on a train passing over it, the sleeper is bent slightly in the form of a bow, thereby destoying the proper angle of the rail, slightly altering the gauge, and increasing the traction, by always putting the engine and train in a position of travelling up an incline. The flexibility is endeavored to be remedied on the North Western and some other lines, by having a drain cut under the middle of the sleeper, as shown in the above sketch.—The effect, however, is somewhat the same, only that, instead of having one fulcrum in the centre to rest upon, the sleeper has two fulcra at the points marked *b*, *b*, the ends being still without support; but the chief objection to wood sleepers is their want of durability. The other objections to their use may to some extent be obviated by increasing their size and length, which is being done by several railway companies, although the expense is at the same time increased. The London and North Western, for instance, have recently advertised for wood sleepers of extraordinarily large dimensions, viz: 10 feet long. 14 inches wide, and 7 inches thick. Increased size lessens, but does not get rid of the objections we have above stated. Engineers are much divided in opinion as to the length of time wood sleepers will last. Some tell us that they will endure, if properly prepared, six or eight years only; others say ten or twelve years; but much depends upon the description of wood used, and the situation in which the sleepers are placed. Mr. Herapath saw some fir sleepers in Belgium, that were as rotten as touchwood after having been down only four years. These, it is true, were not prepared with any preservative process. The sleeper we are considering, however, is not subject to this objection; for, being made of cast iron, there is no reason, if we are to judge of some of the old tram ways still in existence, why it may not last

Fig. 2.



many, perhaps 40 or 50 years, or even longer.

Mr. Greaves' sleeper, of which the above is a plan and section, is a hollow cast iron box—a sort of frustrum of an oval cone—open at the bottom, which is oval in shape, and tapers nearly to a point at the top, where the chair is placed. On each side of the chair is a hole, through which the sleeper can be packed or adjusted from the surface, which is the distinguishing characteristic of the invention. It will be seen that the whole of the bearing surface of this sleeper is placed just where it is required, immediately under the rail, and that it consequently gives a much more efficient and steady support to the rail than the wood sleeper, a portion of which is placed between the rails; and to the extent of two feet at least this portion of the wooden sleeper is perfectly useless as a support, besides being objectionable in other respects.—The area, or bearing surface, of a pair of these sleepers exceeds that of the common transverse wood sleeper by one fourth, or 25

per cent. We have already mentioned that the first cost of the patent sleeper is much the same as that of the wood sleeper with its chairs and pins; at least calculations have been prepared, apparently with much care, showing this result. Then, with regard to the maintenance of the way after, it is very probable, from the ease with which the sleeper can be packed from the surface, that the expense of maintenance of way may be considerably reduced.

We understand that two short lengths of this sleeper have been laid down for some time upon the Lancashire and Yorkshire railway, and we have seen a letter from Mr. Hawkshaw, the engineer in chief of that line, written within these few days, in which he says, "the sleepers have been down nearly six months, and have borne the test of a very heavy traffic remarkably well. * * The experiment, so far as it has gone, is quite satisfactory." We are informed that some of these sleepers are also about to be laid down on the Eastern Counties line, not far from the Stratford station, which will give our metropolitan railway men an opportunity of personally inspecting them, which we hope they will do, and decide for their own lines accordingly.

The inventor of this sleeper is himself, we hear, a practical man, and has been connected with the formation and working of railways from the period of their first introduction; he should, consequently, be well acquainted with the defects of the system, and what is required to improve it. We trust, therefore, his invention will have fair play without any of those crotchety prejudices which too often prevent the honest trial and investigation of inventions.

Office St. Lawrence & Atlantic Railroad Co.,
Montreal, June 2d, 1848.

NOTICE TO CONTRACTORS.—SEALED Tenders, (directed under cover to the Secretary,) will be received at this office, until the 24th inst, for the Laying of the Superstructure upon the Montreal Division of the St. Lawrence and Atlantic Railroad, extending from the River St. Lawrence to the Village of St Hyacinthe, a distance of about Thirty Miles.

Plans and Specifications will be ready for the inspection of Contractors, on the 15th of this month, and they are respectfully requested to make application to the resident engineer of said division (R. T. Bailey, Esq.,) for information in regard to the manner in which the work is to be performed.

No Tender will be considered unless accompanied by the names of two respectable sureties, personally known to the company or engineer, and, in all cases, undoubted security will be required.

The work must be commenced on the 1st July, or immediately after the contracts are closed, and completed by the 1st of October next.

3t24 THOMAS STEERS, Secretary.

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co.,
March 12, 1848. 11tf

HARTFORD AND PROVIDENCE RAILROAD.—Notice to Contractors.—Sealed proposals will be received by the Directors of the *Hartford and Providence Railroad Company*, at their office in the city of Hartford, near the Postoffice, until the 1st day of July, for the Grading, Piling, Masonry and Bridging of that portion of the road extending from the east bank of Connecticut River to Willimantic, about 29 miles.

The Maps, Profiles, Plans and Specifications will be ready for examination on and after the 26th day of June.

The line will be divided into convenient sections, and proposals may be made for one or all the sections, or for the whole work except the superstructure.

EDWARD H. BROADHEAD.
Chief Engineer H. & P. R. R.

Engineer's Office, Hartford,
May 27, 1848. 4t24

RAILROAD IRON—500 TONS HEAVY Pattern—to arrive. For sale by

DAVIS BROOKS & CO.
June 3. tf 68 Broad street, New York.

PENNSYLVANIA RAILROAD COMPANY. Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law. GEORGE V. BACON,

May 13—8t Treasurer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, *Slabbing*, *Plaining*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accuracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NOAHS, 196 Market st., Philad.

April 22, 1848. 1y*17

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," **L** Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtis & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

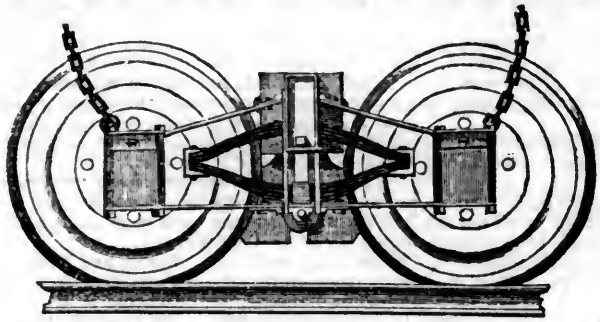
of Messrs. Maudslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.
May 6, 1848.

TWO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.



The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power.

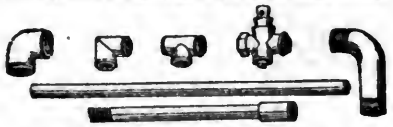
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TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale In the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

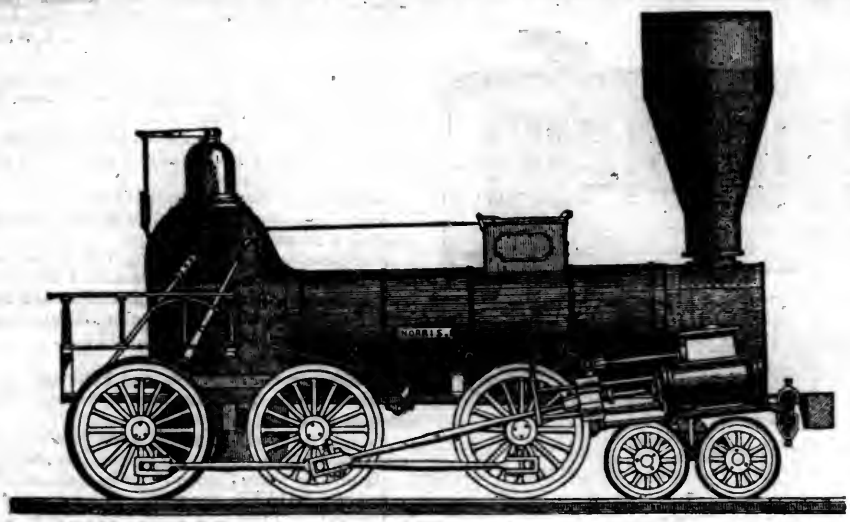
Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

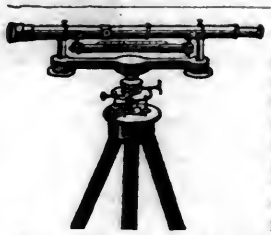
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent*.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

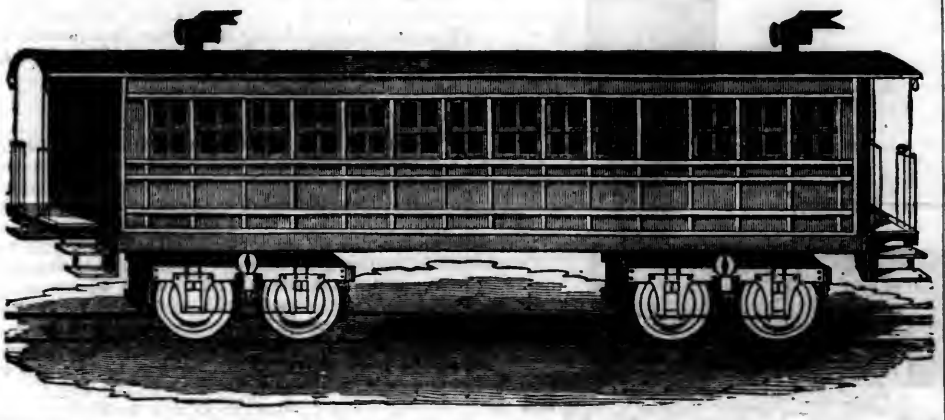
Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5½ p.m.

For Reading 7, 8½ & 11½ a.m., 2½, 4½, 5½, 6½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4½ p.m.

From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m

From Reading at 6, 7½, 9½, 11½ a.m., 1½, 4, 7½, 9½ p.m

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.

Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, April 15, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelp'ia.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, May 1st, 1848.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 10 a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Allyn's Point for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours; to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York afier 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon	$1 00
" " " Xenia	1 50
" " " Springfield	2 00
" " " Columbus	4 00
" " " Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC Railroad.

—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia. April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.



This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
.y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.
Going east.		**1st train.**	**2d train.**	**3d train.**
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

LAP-WELDED WROUGHT IRON TUBES

for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.....	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 27.] SATURDAY, JULY 1, 1848. [WHOLE No. 628, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, July 1, 1848.

To Contractors.

Richmond and Danville Railroad.

The attention of contractors is invited to the following advertisement. This is the breaking of ground upon a line which must, we feel quite sure, connect with the South Carolina railroads, and, therefore, holds out strong inducements for contractors who desire southern business.

ENGINEER'S OFFICE,
Richmond and Danville Railroad Co.

SEALED PROPOSALS WILL BE RECEIVED at this office until 12 M. on Tuesday, the 11th of July ensuing, for the Grading, Bridging and Masonry of the Richmond and Danville Railroad, from the south abutment of the proposed bridge, across the James River, to the summit of the Coal Pits, about 12 miles.

The proposals will be submitted to the Board of Directors, and opened on Wednesday, the 12th of July, and no bid will be considered unless the person making the same, or his accredited agent, is present and ready to close a contract as soon as it shall be awarded to him.

The contractor will be required to give satisfactory security to the Company for the faithful execution of the contract.

For further information, and for specifications, plans, and profile of the proposed work, apply to the Engineer, at the office of the Company.

It is required by the Board of Directors that the names of the bidders be endorsed on the back of the proposals, which should have the further endorsement "Proposals for contract," and addressed to the subscriber.

ANDREW TALCOTT, Chief Engineer.
June 15, 1847. 2t27

To Contractors.

Nashville and Chattanooga Railroad.

We have seldom heard a similar report, of the *first gun of a battle*, with more pleasure than the following from the *chief engineer* of this road. It shows that the work has been commenced in *real earnest*—and that they have taken the bull by the horns—which is a sure guarantee that it will be completed at the earliest possible period, to *Nashville*—the *heart* of that noble State—TENNESSEE. Contractors who wish a good job, in a healthy country, where provisions are cheap—and laborers who may desire to go where lands may be had very low—will do well to look at this offer.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

☞ TO THE SUBSCRIBERS to the Railroad Journal we would say a few words.

In number 14, of this volume, we made an *appeal* to those who receive the Journal, calling upon them to aid in *extending* its circulation—and also upon those in *arrears* to remit the amount *due*—including *current year*, to enable us to make the Journal more useful, and more profitable.

To that call many, to whom it was addressed, have promptly, and generously, responded—and to whom we desire to express our *thanks*. There are many others, however, to whom that appeal was addressed, and to whom bills, and a circular were sent, who have not yet responded—who have not even acknowledged their receipt. We are, therefore, under the necessity of again calling upon those to whom bills were sent, in April and May, for the amount due, *including the current year*. The amount, of each individual account, is a mere *trifle* to the subscriber, but *one* or *two hundred* of them being *withheld* for one, *two*, or THREE years, as is *now* the case, will *ensure the discontinuance of the* publication at the *close* of *the current volume*—January 1st, 1849—we therefore *again appeal* to the friends of the *Journal*, and of RAILROADS, to aid us in *sustaining* it, by a prompt remittance of what is due, as per bills *rendered, and to be rendered immediately*, and by extending its circulation.

To Engine Builders & Engineers.

Will some of our readers, who are familiar with the subject, answer, through the Journal, the following questions of our correspondent?

For the American Railroad Journal.

As the subject of *inside* and *outside* cylinders, in locomotive engines, is often alluded to by engine builders, and as most agree in condemning the outside cylinder, on account (as the builders say) of the unsteady motion produced by applying the power on the sides, instead of the centre, I wish to put two or three questions, in a general way, hoping some one, who understands the matter, will be induced to throw some light on the subject.

In the first place, does it not become necessary to elevate the boiler, when the inside cylinders are used, above what the outside require? and if so, is it not a greater evil, in the practical working of an engine, on sharp curves, than the zigzag motion complained of from the outside cylinders? And again, how much is the deflection of the engine, from a straight line, at each stroke of the piston, when running at the speed of 30 miles per hour?

Respectfully yours, M—— P——,
Civil Engineer.

Vicksburg and Jackson Railroad.

The Vicksburg Sentinel, of 16th ult., says, "The Vicksburg and Jackson Railroad was, on Saturday last, surrendered to Mr. Washington Jackson, the purchaser at the Sheriff's sale, some month or more ago, he had given the bank a stipulated time to redeem the road, by refunding him his purchase money, and it was thought that the United States bank, and the Girard bank of Philadelphia would advance the money to enable it to do so. Both of these banks hold large claims against the bank here, which they could only secure by securing the retention of the railroad; for, apart from this—and which was sold at the same sale—the concern has no property whatever, of any account, and few or no assets that would be worth the expense of collection. The effort to raise the money was made in Philadelphia, but appears to have failed entirely; or at any rate, no arrangement was made, except to authorise an agent here to draw for some $75,000, which was done in favor of Mr. Jackson. This amount however will not induce him longer to postpone his rights. He insisted that the possession of the road should be given; his demands were yielded to, and the Vicksburg and Jackson railroad, with a clear income over

all expenses of at least $75,000 per year, is now the property of a private citizen of England, and has been obtained for a debt of some $150,000, originally, but which was once sold at a bankrupt sale for $6,000."

Fare Reduced.

We learn from the Wilmington (N. C.) Chronicle, that the railroad and steamboat companies between Charleston and Baltimore, which run by the way of Wilmington, Petersburg, Richmond, Fredericksburg, and Washington city, have agreed upon a through ticket at the low rate of fifteen dollars.

Why are not the companies between Baltimore and New York included in this arrangement?—[Ed. R. R. J.]

Suit Decided.

The Memphis Enquirer says,—"The city of Nashville subscribed $500,000 to the stock of the Chattanooga and Nashville railroad. Several of her citizens thought it an unconstitutional act, and to escape the burthen of so much additional taxation, we presume, filed a bill praying that the subscription be declared unlawful and void, and that the corporation be enjoined from paying the stock. The case was tried in the Nashville Chancery court a few days since, and the bill was dissolved; the court declaring the subscription constitutional and lawful. This is a very important decision. The complainants defeated in Chancery, have determined to take the case by appeal to the Supreme court of the State."

Here is another instance where the holders of property are resolved not to be benefitted if they can help it.

Great Western (Canada) Railroad.

We learn from the Oswego Times that it is stated on good authority that the guarantee of a loan o $2,000,000 for the Great Western railroad, by the provincial government, will pass at the adjourned session. The money is to be expended between Hamilton and Port Sarnia. The government favor it in the light of a military road from Lake Ontario to Lake Huron. We are glad to see that the main branch connecting the two lakes is to be constructed and brought into use first. This is wise and judicious.

The distance from Hamilton to London is 85 miles; London to Sarnia 60 miles; Port Huron to Detroit 60 miles.

It is further stated, that the banks in Montreal will take $1,000,000 of the loan. The interest on the bonds are to be payable semi-annually in London, at 6 per cent. The holders have the option to convert the amount into stock in the company, at any time within twenty years.

The Track Sprinkler.

This is the name of a contrivance that has been patented by persons in Providence, R. I., for sprinkling railroad tracks. The Journal of that city states that "it has been applied to the trains of the Stonington railroad, with results favorable far beyond the expectations of the projectors. A tank of 2,000 gallons has been found sufficient to sprinkle the whole track from Providence to Stonington, the train going at the rate of twenty miles an hour. The dust has been laid so effectually as to give no annoyance to passengers; the friction of the wheels on the rails has been greatly diminished; the bearings of the wheels and the journals have been much less worn, and such a thing as a "hot box" to a car has not been known, even at the greatest speed, since the sprinkler has been in use. The labor of cleaning the cars, and the wear upon them, have also been greatly diminished. The sprinkler is placed just behind the locomotive, so that while the locomotive is constantly traversing a dry and comparatively dusty track, the cars are going over a wet one."

Apparatus of this kind, if as successful as represented, would be very acceptable to summer travellers, especially *south* of New York, but we fear that this, like many other new things, is over estimated.

New Railway Brake.

Messrs. Morse & Pratt, of Massachusetts, says the Scientific American, have invented an improved railway brake, which is pronounced by those who have seen it to be the best plan of any yet produced. It operates in the most effectual manner, and may be applied to the whole train simultaneously by the engineer, if desired, or by the brakemen. The brake is caused by friction wheels. The whole apparatus is very simple indeed, and easily applied. Measures have been taken to secure a patent. We expect soon to receive a drawing of it from the inventors, and shall then illustrate the plan with an engraving.

Amicable Railroad Arrangement with Norwich.

It gave us great pleasure, says the New London Chronicle, to learn last evening that an amicable understanding has taken place between the directors of the New London and Willimantic railroad company and the citizens of Norwich, in consequence of which, the road will take the river route to the landing, and connect with the Norwich and Worcester railroad. We look on this arrrangement as so important to the interests of both cities, and to the Norwich and Worcester company, that we shall shortly take occasion to remark more at length upon the great advantages that must of necessity accrue to all parties.

Railway Traffic.

The Railway Chronicle of May 20th says:

"From our official returns, it appears that the amount of traffic for the last week, on 3,671 miles of railway, was £196,953, thus accounted for:—£103,356 for the conveyance of passengers only, £48,358 for the carriage of goods, and a remainder of £15,239 for passengers and goods together, not respectively apportioned; being an increase of £30,306 over the corresponding week of last year, when the mileage was 2,845. The average earnings per mile last week were £53, whilst in 1847 they were £58"

At the annual meeting of the stockholders of the Buffalo and Niagara Falls railroad company, held 5th June, 1848, says the Buffalo Commercial, the following gentlemen were chosen directors of said company for the ensuing year:

Albert H. Tracy, Israel T. Hatch, William A. Bird, Rufus H. King, Josiah B. Plumb, Theodore Dehon, Peter P. Porter.

At a subsequent meeting of the directors, Hon. Albert H. Tracy was unanimously re-elected president of the board for the ensuing year.

Rochester and Lockport Railroad.

The Oswego Times gives the following list of the contractors on the proposed Rochester and Lockport railroad, being an extension of the Lockport and Niagara Falls railroad. The contractors are men of experience and energy, and will undoubtedly drive forward the work with all possible despatch. The following are the gentlemen to whom the contracts have ben given:

Clark Burnham, of Chenango county; C. T. Chamberlain, of Allegany county; Orville Clarke, of Washington county; John Vernham, Hiram P. Mills, of Livingston county; Gideon Hard, A. Ward, John Hilton, Lyman H. Phillips, of Orleans county; Elihu L. Phillips, of Onondaga county; and Roswell G. Benedict, of Monroe county.

If we may judge of success from this list of names of the contractors, some of whom we have long known, we would look for an early completion of the work.—[Ed. R. R. J.]

The South Western, Georgia Railroad.

At the meeting of the board of directors of the South Western railroad company in this city, on Thursday last, says the Macon Messenger of 14th June, *Mr. Holcomb*, the principal engineer, reported that the line had been permanently located the distance of 32 miles from Macon, that the contractors were all progressing satisfactorily with their work, that over 300 hands are employed, that they had, on the 31st inst., accomplished 133,497 cubic yards of excavation and embankment, and 101 cubic yards of masonry, that there has been a gain of 7 per cent. on the line as established by the original survey, and that the distance has been shortened something more than one mile in thirty-two already located. The engineers will resume the business of locating the line at an early day, and it will be seen by the advertisement in another column, that the board have adopted generally the line reported by Mr. Holcomb, and directed him to proceed with the location crossing the river near the mouth of Bear creek, and continuing the localities thereon with such variations only as may shorten the line, or diminish the expense.

The board, we are informed, passed the resolution in question in consequence of the false reports which have been put in circulation in the southwest in regard to the purposes of the company. On the one hand it was stated that they intended to proceed direct to Columbus, and on the other that they would ultimately diverge in the direction of Albany. The purpose of the board is to act in good faith with its stockholders and with the public generally. Those who wish more fully to understand the views of the members, and who may desire to aid in giving them practical effect, are invited to be present at the various meetings which have been called in the latter part of July in that particular region. One or more members of the board will be present at each meeting, for the purpose of addressing the people and of giving them all desired information in regard to the enterprise.

Iron Trade.

The iron trade is still in a very depressed condition. The Glasgow report of May 13th is as follows, viz:

"In the early part of the week a good deal of business was done in pig iron at 43s. to 45s. For the last few days there has been rather less inquiry. Holders ask 44s. 6d. for mixed numbers, cash, as there is little iron offering. Buyers, however, will not pay above 44s. The market closes very quietly. In the early part of the fortnight, says the *Birmingham Gazette*, a considerable movement took place. It became known that the Shropshire houses had been induced to submit to abatements in consequence of the rates at which contracts had been taken, added to the very low prices of Welch and Scotch iron generally. It was also reported that the monthly circular of Lord Ward's agent notified a similar decline. The aspect of political affairs on the continent appeared to be daily growing more gloomy, and the accounts from our colonial and American connexions were anything but cheering. Under these circumstances, it became evident that the position hitherto assumed here was become untenable. Pressing engagements, also, in many instances, required to be provided for, and a disposition to sell was thus induced, particularly among pig holders, amounting to almost a panic, of which many of the manufacturers dependent upon pur-

chases, availed themselves to recruit their exhausted supplies of metal. Considerable quantities of Staffordshire pigs were sold during the week, and we are sorry to say, some at unwarrantable low rates; one sale was mentioned at 55s. per ton. Manufactured iron also was negotiated to some extent at a decline, and abatements to a greater or less per centage, to avoid countermands, have been conceded upon progressing contracts."

Patent Office Report for 1847.

We are indebted to the politeness of the commissioner of patents for his annual report for 1847. He has succeeded this year in confining it within reasonable bounds—as it only covers 660 octavo pages. The commissioner shows that the receipts for the year 1847, including everything, amounted to $63,-111 19—of which $8,008 43 has been returned to applicants—leaving $55,102 76; and the expenses of the department has been $33,559 92, leaving a balance for the year of $21,542 84. He states also that the business of the office has increased 33 per cent. since his appointment, and that there is not now a sufficient force in the department to give the business proper attention, and he therefore again asks congress to make provision for an increased force, which we hope will be promptly done.

There is much of interest in the report of the commissioner and his assistants, Charles P. Page and W. P. N. Fitzgerald, *examiners*.

This report is not, however, wholly, nor even *mainly*, devoted to the subject of *patents*, but also to agriculture in all its branches. The subject of *wool*, and *sheep*, is treated of at great length—over 100 pages being devoted to this important interest—by Mr. *Chas. L. Fleischman*, formerly draughtsman in the patent office—who travelled extensively in Europe in 1844 and 1845—and has given the result of his observations on this and other subjects, which will be found exceedingly interesting and useful to many. If a much larger proportion of the outlay by the government for congressional printing was devoted to the wide circulation of such documents as these, the people would get more for their money. We should like to know that *every family*, or at least every *farmer* and *mechanic in the Union* had one of them annually.

Camden and Amboy Railroad.

Its Privileges and its Abuses.

In our last number we gave the company the use of our columns for the article of "D.," which we found in "The City Item." We now, on the principle that "one good turn deserves another," give place to a continuation of D's *able* arguments in behalf of his *clients*—as we take it for granted that no man of ability would thus lay himself out, unless he was amply compensated for his labor—and also for the "*wear and tear of conscience*." But to the communication of D., which is as follows, viz:

"In the supplementary enactments to the act of incorporation of the Camden and Amboy railroad, passed in 1832, it is rendered incumbent upon the company to pay $30,000 yearly to the State, for tolls, dividends, etc.; and this sum must be paid whether the profits of the road admit of it or not—the deficiency, if there should be any, having to be made up, and paid to the State out of the joint stock of the company. Now, in the event of a sudden stagnation, or a heavy falling off of traffic or travel, by which the proceeds of the road were materially lessened, the profits might be swallowed up by tolls and repairs, and not only that, a large draft would be made upon the hard-earned funds of the company.

"Again, the road, by the restrictions of the charter, is prevented from becoming an instrument of finance, and thereby is free from a most obnoxious feature of many chartered companies. It is provided by the 27th section of their charter, that 'the company shall not employ its capital, or any part thereof, in banking operations, nor engage in any transactions peculiar and appropriate to banking institutions.'

"And we may add to these restrictions, the enactment by which, at the termination of the period of their charter, the State of New Jersey reserves to herself the right of purchase and possession of the road; appraising its value, not with reference to the stock, the value of which the company has increased, but only to the actual worth of the road, and the 'actual cost and expenses incurred in the completion of said road.'

"At that period, then, the expiration of thirty years from the date of incorporation, the company may be ousted by the State, *nolens volens*, at the merely normal price of the original expenses. These were, we cannot help thinking, exceedingly hard terms in the outset, and the enterprising projectors of this vast work deserve, surely, something besides censure for the public spirit which they displayed in their happily successful attempt.

"The idea of an opposition national road, promulgated by some visionary individuals, is not only unjust in itself, but absolutely impracticable; while New Jersey preserves her tenacious consciousness of State-rights, and while the public, as a body, regard the matter in its true bearings. The road has been an unmeasured benefit to Philadelphia, and its stockholders are citizens of Pennsylvania and her sister State. To the pioneer exertions and energy of the company we owe our great increase of business, and if travel has increased in the same ratio, the company has an undoubted right to the emoluments arising therefrom, for the period of their charter, precisely as they would have been forced to lose their investments had the undertaking failed to be successful. 'The laborer is worthy of his hire.'

"In conclusion, we would say, in answer to complaints in regard to conductors, etc., that the *employees* of the road are selected in view of the qualities which their stations require, and the testimony of many old railroad travellers, as well as our own experience, warrants us in asserting, that more courteous, responsible, and gentlemanly agents, conductors, and other officers of the road, cannot be found on any railroad line in the country. And this assertion will be found correct by all who are disposed to view the matter in an unprejudiced light, and not in the captious spirit evinced by those fault-finding individuals who look upon the world (and we pity them for it,) with a jaundiced and half-blinded eye.

D."

The points made by D.—1st. That the projectors ran a risk in agreeing to pay $30,000 a year for their exclusive privileges, or—2nd. That they are entitled to consideration because their charter *restricts* them from banking, or "from becoming an instrument of finance"—and 3d. That the State reserved the privilege of taking the roads, at the expiration of 30 years, at cost—or, to use his own terms, "at the merely normal price of the original expenses"—are amusing to those who know the men, or understand the subject of railroads generally.

There is also another communication in the "Item" of last week, on the other side of the question, in which we find the following paragraphs, and give them as we find them, for what they are worth, leaving our readers to determine whether D. or A. is nearest the truth in relation to the *conductors*. A says:

"If D. were acquainted as well as he might be with '*real* public opinion,' he would find that the 'fabric of clouds and shadows,' which he so easily dissipates, would amount to considerable of a thunder storm.

"As it regards the 'spirit of accommodation,' I will say but a word or two. It is a delightful thing to accommodate when one is well paid for it. This feeling is a characteristic of individuals, but applies most particularly to large corporations. Their spirit of accommodation consists in improvements and arrangements, which, it is true, add to the convenience of travellers, but with a view to facilitate their own interests—the controlling principle of all monopolies. The true spirit of accommodation is too little fostered among individuals—but, much less by extensive companies like the one of which we speak. They feel their power. They know they command the travel of a very great thoroughfare. They could raise the fare even higher with perfect impunity—were they not limited by their charter—and the public would have no alternative. They can make such rules and regulations as they please, no matter how oppressive, as some of them are, and travellers must submit. If a lady residing at a distance, finds, upon arriving at her home, that she has left a small trunk behind,—how is she to get it? She writes to a friend stating the fact, and desires him to send it. He takes it to the boat, presents it to the conductor, or baggage man, relates the circumstance, and before he is hardly finished, is told in the gruffest, most uncouth, and ungentlemanly manner, that 'the trunk can't go in this line.' What is he to do? If he presumes to urge, or supplicate, in all probability his endeavors will be met with insult, and he is told to stand out of the way. How is it got to the lady? By some friend taking charge of it you would think would be easy enough—but to this they object, and most reasonably demand, after knowing all the circumstances, that the *owner shall accompany* it!

"D. commences with an error, which I will close by correcting. He says that the Camden and Amboy company have reduced the fare to *three dollars*. I cannot conceive how he has fallen into it, as almost every body knows that this has been the price for several years."

The statement of D., at the commencement of his first article in the "Item," in relation to "a mid-day train" being "run at the *reduced* price of *three dollars*," is incorrect, and calculated to mislead those who are not familiar with all the facts. It *would* have been correct if the company had yielded obedience to the *unanimous* resolutions of both houses of the New Jersey legislature, confirming the position of the State directors, in their annual report, requiring the company to run a line from Philadelphia by the way of Trenton and New Brunswick, to New York, for $3, but—instead of yielding to the requirements of the State directors, sustained by the *unanimous* voice of the legislature, from which they derived their existence—they start another train, at mid-day, on the *Camden and Amboy—not* by the way of *Trenton* and *New Brunswick*—road, where there is comparatively little *way* travel; not, however, at the "*reduced*"—but at the *legally established* price of $3, as fixed by the law of 1832, modifying their charter.

This, however, is a small error in comparison with what follows it in his communications, yet too important to be allowed to go uncorrected.

Our readers will, we trust, excuse us for omitting our extracts from the letters of A Citizen of Burlington, while we are giving the company the use of our columns for the able communications of their champion "D."

Cathcart's Locomotive for Inclined Planes.

We find the following account, in the Madison, Ia. Banner, of a locomotive built by M. W. BALDWIN, of this city, for *Andrew Cathcart*, of Madison. We hope the anticipations of the projector may be fully realised; and that much benefit may result to the railroad interest, and to him, from his improvements—whatever they may be—but we are quite sure that he cannot claim "the rack, in the centre, between the rails," as that is an old invention—at least 17 or 18 years—as he will find by referring to the early volumes of the *Railroad Journal*, and even *then* it was not *new*. Yet he may have ade importamnt improvements in the machinery and its arrangement. Will he please inform us? The editor of the Banner says:

"A notice of this powerful and gigantic engine appeared in our paper about the time of its arrival here from Philadelphia, where it was built by Mr. Baldwin, under the direction of our townsman, Mr. Andrew Cathcart. We must premise, for the infor-

mation of those who have not seen the engine or road, that its moving force is derived from a rack in the centre, between the rails, with cog wheels working in it, and an improvement on the cylinders not hitherto discovered.

"On Saturday last we witnessed a partial trial of its power. Twenty-two cars, heavily laden, and weighing, with their contents, one hundred and forty eight and a quarter tons, were attached to the engine and its tender. With this weight it moved off with perfect ease, up the Madison inclined plane, the grade of which is three hundred and seventeen feet to the mile. This power, exerted on a level, is equal to hauling, what might appear the almost incredible amount—were it not founded on the most correct calculations—of two thousand six hundred and eighty-eight tons. The inventor has now the satisfaction of showing to the public, contrary to the prognostications of those who knew but little of the acting forces of machinery, that his most sanguine expectations are now more than realized.

"We are warranted in the assertion, that no weight, at all approaching this, has been carried up as steep a gradient in this or any other country.—The weight drawn is equal to nearly two and a half times as much as any locomotive has ever accomplished, on a level, either in Europe or the United States. This is what has been done: but the inventor is now confident that his engine can draw, if necessary, two hundred tons on the plane, equal to the amount on a level of between three and four thousand tons."

We shall be greatly obliged to Mr. Cathcart, or to Mr. Baldwin, for a full description of this engine. —[Ed. R. R. J.]

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 20th ult., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	7,681 07	67,162 15
By Room Run	3,619 08	39,269 03
By Hazleton	3,659 00	28,109 00
By Beaver Meadow*	965 00	22,163 10
By Spring Mountain	2,909 09	20,907 15
By Buck Mountain	2,663 08	21,656 18
By Cranberry Mines	315 00	874 00
White Haven	.... ..	53 10
Total	21,812 12	200,196 11

* The mines of the Beaver Meadow company have been filled with water during the last two weeks, which acflounts for the small amount of coal sent to market. The mines are now free, and in future they will do an increased business.

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 22d ult., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	12,544 05
" Pottsville	5,060 08
" Port Carbon	9,233 13
" Port Clinton	3,839 07
Total this week	30,677 13
Total this year	545,455 10

The amount of coal brought to market by the Schuylkill canal during the week ending the 22d ult., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	8,164 10
" Schuylkill Haven	4,044 10
" Port Clinton	000 00
Total this week	12,476 18
Total this year	138,357 16

Recapitulation.—Total Shipments this Season.

By Lehigh companies	200,196 11
By Reading railroad	546,455 10
By Schuylkill canal	138,357 61
Total	885,009 17

Lafayette and Indianapolis (In.) Railroad.

We have received a copy of Mr. A. C. Twining's report, of his preliminary surveys, for a railroad from Lafayette, to connect with the Madison and Indianapolis railroad at the capital of the State. This road, it will be perceived, is in almost a direct line from Madison, on the Ohio river, to Chicago, passing through Indianapolis and Lafayette. It will also open a communication between the Wabash and Erie canal, and the Ohio river.

The report is devoted to giving a description of the several lines surveyed, and may not be of as much interest to our readers, as the following summary in relation to the matter, which we find in the Tippecanoe Journal of 27th April.

This is an important link in the chain which will, at no distant day, connect the Ohio with lake Michigan, at Chicago, and the Mississippi at Galena, and lake Erie at Detroit. The Journal says:

We have been furnished by the president of the Lafayette and Indianapolis railroad company, with the following summary in reference to the condition of the company:

Stock has been subscribed to the amount of about 150,000 dollars.

An instalment of two dollars on each share of fifty dollars, was called in at the October session of the board, and at the late April session an additional instalment of three dollars on the share.

An engineer of eminence and great experience has been employed, assisted by a gentleman well educated both in the theory and practice of his profession.

The engineers, with a good corps, have thoroughly explored and surveyed the experimental lines between Lafayette and Lebanon; and maps, profiles and approximate estimates have been made of each, accompanied by a report.

The board, at its present April session, all the members being present but one, have, with great unanimity, selected from the several surveys, the route which leaves Lafayette by the south, crosses Durkee's run near its mouth, thence avoiding the Wea hills passes east of Kirkpatricks point, and by the bend of Lauriamie and Prairieville to Thorntown and Lebanon.

A reference to the report (herewith published) will show that this line, in point of cheapness, compares with the most favorable of the other lines, while there is a saving of distance and of gradient of great moment in the affairs of the company compared with the northern exit from Lafayette.

On the route adopted, the most expensive section is at Durkee's run. To obviate this for the present, and with reference to the infancy of the company's means, the board have determined to commence the construction on Stockton's hill beyond Durkee's run, where the survey attains the upper plain at an elevation of about 75 feet above the canal and where the line of the road approaches within a few yards of the canal banks.

An eligible site (consisting of near three acres of ground) for a depot, has been purchased on the canal in Lafayette, on terms advantageous to the company. It is on the second street below the public square, and in the heart of business. Contracts, commonly known as "the right of refusal," have also been secured at reasonable rates for timber and timbered land, in various places along the line of the road, between Lafayette and Lebanon.

As the parties to these several contracts for a depot and timbered land have agreed to take stock in payment, they have thus been acquired without impairing the present means of the company.

Releases of the right of way have, with trivial exceptions, been obtained, from the depot at Lafayette to Lebanon.

An amendment to the charter, universally desired by the stockholders, was obtained from the legislature at its late session, removing all limitation on the duration of the charter or upon the dividends, repealing the clause that imposed individual liability on the stockholders, and securing other privileges and advantages to the company. This amendment has been accepted by the board.

To equalise the earlier and later subscriptions, a resolution has been adopted by the board, allowing 7 per cent. per annum on all money payments to the capital stock from the date of the payment—to be carried to the credit of the holder in such manner as the board may hereafter designate.

The engineer has been instructed (and is now engaged in the work) immediately to put the line adopted, from Lafayette to Lebanon, in a condition for letting; aud so soon as tl at is done, to continue the survey from Lebanon to Indianapolis.

So soon as the corrected survey is finished to Lebanon, and plans, estimates and profiles prepared, (which it is expected will be done in two or three weeks,) the board have instructed proposals to be issued for grading, (to include bridging and masonry,) from Stockton's hill, near Lafayette, to Lebanon.

The vacancy occasioned by the resignation of Wm. P. Heath of his office of director and treasurer, has been filled by the appointment of Nathan H. Stockwell as director, and of Wm. F. Reynolds as treasurer.

The route is one among the most favorable in the country for a railroad; the highest gradient, and that for a single section, being 35 feet to the mile. For a more detailed view of the whole survey, reference is made to the report of the engineer.

To the citizens of this section of the State, this, with similar works, is interesting, not only in a pecuniary, but in a social point of view; as, by opening these avenues of trade and travel, emigration and wealth will flow in, with the means of increasing and supporting those institutions connected with our own moral welfare, and with the hopes of our children.

The experience of other roads constructed in the west, and especially the Madison railroad, leaves not a doubt that our investment will immediately return a large profit.

The prairie country adjacent to this line of road in the counties of Montgomery, Clinton, Tippecanoe, Fountain, White and Warren, will show, when compared with any area of similar extent in the Atlantic States, *a greater number of acres now under the plough;* and

the virgin richness of the soil more than counterbalances the better cultivation at the east. And in all these counties, together with the timbered country of Boone, Hendricks, Marion, etc., now producing a large surplus, there is not an acre of waste land.

In the level parts of Indiana, where a railroad can be built at a cost of from 6 to 10,000 dollars per mile, as easily as for 50,000 dollars east of the Alleghenies, it is not difficult to make a calculation of profits.

The weekly reports on the Madison road during the entire winter and spring, show a travel at the rate of from 800 to 1000 passengers per week, and it is understood that the company have not been able to carry all the freight offered.

The scarcity of capital in the west, is the sole reason why such a work as our's is delayed for a day. No such opportunity offers for investment in the east; and it is hoped our citizens, by a liberal and prompt addition to the subscription, will give to the capitalists in the east, interested either in the extension (in a right line) of the Madison road, or in a good investment, an earnest of a due appreciation, on our part, of our own interests.

NOVEL METHOD OF CONSTRUCTING LOCOMOTIVE ENGINES.

An entire new idea—says the London Mining Journal—and one which, if carried into effect, will produce a revolution in the principle of the locomotive—has been started by Mr. Gaspard Cipri, surveyor of the Paris and Orleans railway, and which he terms the "hydro-electric process, for feeding the combustion in the fire places of locomotives and steam engines." Having long been aware of the enormous loss of heat in the locomotive as at present constructed, he studied carefully the necessary means of preventing this, and found, by the aid of a very simple process, that all combustion can be fed by the vapor of water, in place of the air of the atmosphere; and the following are the scientific facts on which the principle is based:

1. The difference between the vapors and the gases having been falsely given, for a long time, by the facts constantly exhibited in the physical sciences. Thus the bodies which are present in the state of gas, are the bodies in a state of vapor, and vice versa.

2. The vapor of water, or rather the gas of water, arising from two volumes of hydrogen, and one volume of oxygen, is a fluid which powerfully develops combustion, either by its chemical properties, or by the proportion of volume in which the mixtures of the two gases are present, which form the vapor of water.

3. The vapor of water, in coming into contact with electricity, undergoes almost a disjunction, or a repulsion, between the two gases which compose it. By an unknown cause, this repulsion between the elements of the vapor of water is almost necessary, in order that this same vapor might become a powerful supporter of combustion.

4. Ignition, or the flame which arises from the combustion of a body, is an electrical phenomenon.

To carry out these principles, he proposes to construct his boiler and fire grate in such manner, that a current of steam can be passed underneath the grating, and the communication with the atmosphere be cut off after first lighting the fire; when the combustion will be fully supported, and much greater heat developed. He considers the following advantages will be obtained:

1. No tender is required.

2. The fire place is in the centre of the liquid mass, which it is required to quickly heat.

3. The boiler, with all its heated surfaces, is placed between the fire place and the warm water, which serves to supply it.

4. The water, which supplies the wants of the boiler, by surrounding these heated surfaces, completely absorbs the caloric, which, in the locomotives in actual use, is lost in the air.

5. No firemen are required.

He also proposes to use coal instead of coke and all the gaseous products to mix with the steam, and be condensed in a reservoir which surrounds the boiler and supplies it; while the volatile oils contained in this fuel form a useful greasing substance to the moving parts. From the application of the smoke and gaseous products of combustion as a moving power, he assumes the following advantages:

1. The employment of the tension of the smoke and the gaseous products of combustion, so that they mix with the steam, and assist to put into movement the engine by means of their tensile force.

2. Economical employment of all the heat, which, in the locomotives at present in use, once developed, passes off in complete loss in the air, by passing through the sides of the fire place and the tubes.

3. Suppression of chimney; whence it follows, that tunnels and bridges might be constructed of less height, and therefore at a diminished cost.

4. It becomes impossible for the tubes of the boiler to be stopped up. The inventor considers his new system produces a saving of at least one third of expense over that at present in use.

English Canals.

We find the following brief reference to some unprofitable canals of England, in the Railway Chronicle.

Park Forest Canal.—Accounts for half-year ending 31st of December, 1847.—The capital account shows the receipts from calls and loans, land, and purchase of carrying concern of Manchester, Sheffield, and Lincolnshire, to be £266,276; expenditure for act, land, and works, is stated at £265,337. The revenue accounts from tonnages, rents, etc., shows receipts at £13,821 12s. 6d.; expenditure £14,220 10s. 11d.; balance in excess £398 18s. 5d.

Ashton Canal.—The capital account shows receipts at £239,256; parliamentary and works at same sum. The revenue account shows receipts at £11,710 7s. 6d.; expenditure for repairs, loans, rents, and annuities, at £12,274 5s. 5¼d.; balance in excess of £563 17s. 11¼d.

Macclesfield Canal.—The capital account shows receipts from calls, loans, etc., at £352,917; expenditure in land and works at same sum. The revenue account shows receipts at £4,883 16s. 4d.; expenditure, including interest for loans and annuity, at £5,978 19s.; balance in excess of £1,095 2s. 8d.

Great Grimsby and Sheffield.—The balance sheet to the 31st of December shows an expenditure of £721,241, being an excess over receipts of £77,148.

Sheffield and Lincolnshire.—The balance sheet to the 31st of December exhibits expenditure at £288,083, being an excess over receipts of £85,156.

Manchester and Lincoln Union.—The balance sheet to the 31st of December exhibits receipts at £199,542 19s. 6d.; showing a balance, less expenditure, of £15,282 14s. 3d.

Chesterfield Canal exhibits receipts at £4,800; expenditure at same sum. The revenue account shows receipts at £4,941 19s. 8d.; expenditure at £4,823 0s. 1d.; balance £118 19s. 7d.

Grimsby Docks.—The balance sheet to the 31st of December exhibits receipts at £402,527, showing a balance, less expenditure, of £91,603 11s. 8d. The revenue account shows receipts at £3,533 16s. 3d., and expenditure £3,507 14s. 1d.; balance £26 2s. 10d.

It does not, however, follow that all the English canals are *un*profitable—very far from it—some of them are the best paying stocks in Europe.

Wabash and Erie Canal.--Its Present and Prospective Business.

The following letter from J. M. Williams, Esq., chief engineer of this important work, which we find in the Wabash Gazette, shows the amount of business, or rather of the leading articles, transported on it during the shipping season of 1847. From this business—in its unfinished state—we may safely look forward to an extraordinary increase, when it shall have been completed to the Ohio river and the country through which it passes shall have been brought into a more general state of cultivation.

The position of this canal has extraordinary advantages, in point of distance, as compared with either of its rival water avenues, between Lake Erie and the Mississippi—being only about 450 miles from Toledo, and 525 from Cleveland, to Evansville, on the Ohio river, and not much more than *half* the distance between the same points by way of the Ohio canal and river—nor a *fourth* of the distance by the way of the lakes and Chicago, to the Mississippi, at Alton—and it passes through a region of country unsurpassed for fertility—which will, in a few years, be chequered with *plank* roads and *railroads*, intersecting this work at different points, by which it will be fed with *freight* as it is now with water from the rivers and streams, and it must become a source of great good to the country, and of liberal returns to those who have furnished the means to complete it; and we shall rejoice in its early completion, and are obliged to the writer for the means of giving publicity—in our sphere—to the result of his experience, and hope to hear often from him in relation to the improvements in the Wabash valley.

EXPORTS OF THE WABASH VALLEY.

FORT WAYNE, April 20, 1848

Dear Sir:—Since my connection with the Wabash and Erie canal, I have devoted some attention to the subject of the trade and commerce of the Wabash valley, for which this canal forms in part the channel of transportation. Through the assistance of gentlemen connected with the produce business residing at the various towns on the Wabash, (for whose polite attention I wish here to express my thanks,) I have been furnished with an accurate statement of the shipments south by the Wabash river, of all leading articles of produce during the shipping season of 1847. From the reports of the collectors, I have, in like manner, gathered the shipments of produce north by the canal during the same year. Believing that a condensed statistical view of this subject, showing the amount of shipments from various points, the aggregate

value of exports of the Wabash valley, together with the proportion shipped by the canal and by the river, would be interesting to you, I have prepared the following statement:

1st. Of agricultural products shipped south by the Wabash river during the shipping season of 1847, from all points between the dam at Delphi and the south line of Vigo county.

	Aggregate value.
From Delphi and Pittsburg	$29,551
" Lafayette and vicinity	96,079
" Independence (no account received.)	
" Attica	69,645
" Williamsport	58,339
" Covington and vicinity	68,681
" Perrysville	45,401
" Eugene and Vermillion river	100,422
" Lodi and vicinity	36,040
" Newport	43,087
" Montezuma, Armiesburgh, and Sugar creek	107,857
From Clinton	108,183
" Terre Haute and vicinity	471,294
" Darwin	24,730
Total by the river	1,259,309

2d. Of agricultural products shipped north by the Wabash and Erie canal during the season of navigation of 1847:

	Aggregate value
From Lafayette, including also Attica, Covington, and intermediate points	$1,061,748
From Logansport, including Delphi, Pittsburg, and intermediate points	325,035
From Lagro, including Wabash, Peru, & other intermediate points	229,586
From Fort Wayne, including Huntington and intermediate points	298,898
Total by the canal	1,915,267

By a detailed analysis of the foregoing statements, several interesting facts have been deduced, among which are,

1st. In respect to that portion of the valley extending from Delphi to Covington, inclusive, throughout which the exporter of produce has had free choice between the river and the canal as a channel of transportation, the canal shipments amount in value to $1,224,264, while the river shipments amount to $322,293, showing that a preference was given to the canal during the year 1847, in the proportion of *four* to *one*. Estimating the tonnage shipped in both directions, the proportion is as *five* to *one* in favor of the canal.

2nd. Of the total value of exports by canal and river from the State line to the south line of Vigo county, amounting to 3,174,576 dollars, the largest item is wheat and flour, amounting to 1,298,215 dollars, or near two-fifths of the whole; the next largest, or second item of export, is pork, bacon, and lard, which amounts to 1,091,029 dollars, or near one-third of the whole export, while the next largest, or third item of export, is corn, the total value of which amounts to 564,710 dollars, or over one-sixth of the whole export.

3d. From that portion of the valley embraced in the counties of Tippecanoe and Fountain, the export of wheat and its product, (flour,) and the export of pork and its product, (lard and bacon,) are very nearly equal in value. North of these counties, wheat appears to be the great staple, while south of them, pork is the leading production of the country. The opening of the canal south of Fountain county will doubtless increase the production of wheat in that region, by affording a cash market at all seasons of the year.

4th. Estimating the trade of the Wabash valley by its tonnage, it appears from the facts collected, that the total shipments of produce south by the river, from all points between the Delphi dam and the south line of Vigo county, amounting in 1847 to 40,119 tons; of which 33,008 tons descended the river in flat boats, and 7,111 tons in steamboats. The whole number of flat boats loaded with produce on the portion of river between the points named was 331. By the same mode of computation, it appears that the aggregate tonnage of the same items of produce shipped north by the canal during the same year, from all points east of Covington inclusive, amounts to 73,854 tons

5th. The total tonnage of the Wabash and Erie canal, estimating the entire transportation in both directions, including exports and imports, together with the local trade, amounted in 1847 to 117,739 tons, of which 84,941 tons were shipped eastwardly towards Lake Erie, and 32,798 tons were shipped westward.

It will be recollected that the whole country bordering the canal east of Delphi, has only recently changed proprietorship from the Indian to the white man; and farther, that the improvement of this region has necessarily been tardy, from the uniform denseness of the forest, unrelieved by the facilities which the prairies afford. The emigration flocking in to possess the new lands in this region, has heretofore made a market at home for a portion of its productions, leaving comparatively a small amount for export. These facts account sufficiently for the smaller aggregate value of exports from the towns above Delphi in comparison with those below that point. The race of red men who subsist only by the chase, refusing to cultivate the soil, having yielded this fertile country to an agricultural people, under a benificent arrangement of Providence, everywhere observable, the arm of the husbandman is now rapidly gaining the mastery over this forest; and the region of the Upper Wabash has already reached that stage in the history of its improvement, from which a large and annually increasing surplus product may reasonably be anticipated for transportation.

Below Delphi, and from that point to the south line of Vigo county, the country in its agricultural improvement is much more advanced, and the aggregate value of its surplus, collected for transportation to distant markets is much larger, amounting, as may be seen by the foregoing tables of shipment, both by canal and river, to the immense sum of near two and a half millions of dollars.* This large sum of money is returned into the country in some shape or other, either as money or merchandise, as the earnings of our agricultural labor. And when it is considered that this surplus of production was gathered from a district of country only 120 miles in length with the river, and about 60 miles in width, being equal in area to less than one-fifth part of the State of Indiana, the result would seem to indicate a good degree of prosperity, and an encouraging increase of our permanent wealth. It may well be questioned whether an equal number of inhabitants on any part of the globe, after subsisting the home population, contribute more towards supplying the substantial articles of food for the world at large, than do the people residing in this section of the Wabash valley.

I do not overlook the fact that 1847 was more than an average year in respect to the *value* of our exports—prices during that year ranging unusually high. As regards the *quantity* of the agricultural exports, the difference between that year and others would not be so material. The exports of pork, lard, etc., has been greater in 1848 than in 1847—that of wheat and corn will probably be less.

With great respect, your obedient servant,

J. L. Williams.

Charles Butler, Esq., N. Y.

* The estimate of value has been made up by taking the average prices paid at Lafayette during the season of 1847.

THE WICKSTEED ENGINE.

The London Mining Journal says that Mr. Wicksteed was the first to introduce the Cornish engine into the metropolis, and deserves great credit for his exertions. The first engine was put up about 10 years ago; the second, which is larger, is named the Wicksteed engine, and is erected at the East London water works. It was started to supply water to that company's district in June, 1847, and is the largest engine hitherto erected in London; it was designed by Mr. Wicksteed, who is engineer to the company, and was erected under his superintendence. It was manufactured by Messrs. Sandys, Carne & Vivian, of Copperhouse foundry, Hayle, Cornwall. The diameter of the cylinder is 90 inches, the diameter of the pump 44 in., length of stroke 11 feet, and it pumps 20 imperial barrels at each stroke. When working at the rate of eight strokes per minute, it raises 5,792 gallons per minute, or 8,340,480 gallons per diem, or 84,563,200 barrels per annum. The power when working at this speed is 200 horse power. The main beam is 39 feet long, and weighs 33 tons; it vibrates on a cast iron main gudgeon, 16 in. diameter, and the whole is supported by four columns, and an entablature of cast iron, designed in the Grecian Doric style. The plunger, with its appendages, weighs 43 tons which mass of matter is raised 11 feet high at each stroke of the engine. The pump work is supported by two iron girders, weighing each 10 tons, and is strongly bolted down to a mass of masonry in the foundations.—The boilers, four in number, are cylinrical, 34 feet long, 6 feet 6 inches diameter, with an internal fire tube 4 feet in diameter. The diameter of the steam pipe is 16 in. The total weight of the engines, pumpwork and boiler is 414 tons, and the whole cost was £10,000, or £50 per horse power, or about £24 per ton. The quantity of coal consumed by this engine, if working at full power night and day, would be 2000 tons per an-

num, and the quantity of coals that would be consumed by the best of the ordinary non-expansive engines in doing the same work would be 4500 tons, which at 13s. per ton, is £1625 per annum, or 16¼ per cent. upon the cost of the engine for coals only.

Railroads and the French Government.

It appears, after all, that the French government are resolved to assume the railroads. A high-handed measure we consider this, and one that will be productive of much evil to the country.

The minister of finance presented on Wednesday to the national assembly the long expected project of law relative to the assumption of the railroads by the State.

After a long *expose*, in which the minister of finance seeks to justify the measure, and contending that it does not imply a spoliation, the minister proposed the following articles:

1. The resumption by the State of the railroads conceded to financial committees previous to the 24th of February, 1848, is declared a measure of public utility.

2 The minister of finance authorized to execute the measure, on allowing the compensation stipulated in the 3d article.

3. The resumption of the different railroads shall take place on the following conditions:—

First Category.

The Paris and St. Germain, the two Versailles roads, Strasburg to Basle, Paris to Orleans and Corbeil, Paris to Rouen, Rouen to Havre, Montereau, to Troyes, Paris to the frontier of Belgium, with the branches, Orleans to Bordeaux, the Centre line, Avignon to Marseilles, Amiens to Boulogne, Paris to Lyons, Paris to Strasburg, and Tours to Nantes.

The value of those different lines shall be fixed, according to the average price of their respective shares on the Paris Bourse, during the six months that preceded the revolution of the 24th of February, (from the 24th of August, 1847, to the 24th of February, 1848.) In exchange for the shares the holders shall receive coupons of *rentes* five per cent. price for price, according to the average price of the Paris Bourse during the six months above mentioned.

Second Category.

The Andrezieux and Roanne road, Lyons to St. Etienne, Grand Combe to Alais and Beaucaire, Abscon and Auzin to Denain and Somain, Montpelier to Cette, Mulhouse to Thann, Bordeaux to La Teste, Dieppe, and Rouen.

For this second category, the minister of finance is authorized to treat with each company separately. The treaties, shall, however, be submitted to the sanction of the national assembly.

4. The companies with which the minister of finance should think proper to enter into a negotiation may, in a general assembly of the shareholders, assembled for the purpose, accept, by a majority of votes, the conditions proposed by the minister of finance, and thus contract for the universality of their shareholders.

5. A sum of *rentes* equal to the estimated value of the railroads redeemed shall be inscribed on the grand book of the public debt.

6. The State assuming the place of the companies, shall reimburse their obligations and loans on the terms stipulated with the lenders.

7. The expenses necessary for the execution by the State of the railroads which were to be executed by the companies, in virtue of anterior laws, shall be provisionally defrayed by the floating debt.

8. The minister of finance, and the minister of public works, are charged with the execution of the present decree.

The members of the executive committee, Arago, Garnier, Pages, Marie Lamartine, Ledru Rollin, and the Minister of Finance, E. Duclerc.

Locomotive Engine Blast Pipes.

The London Mechanics Magazine says, "it has always been considered that the best method of producing that degree of blast through the furnace and tubes of a locomotive engine, which is necessary to keep up the required quantity of steam, is by means of the exhaust steam from the cylinders. This, however, will be found to be contrary to fact, as the following statements, based upon direct experiment and well known and established principles of action in daily operation, fully prove:—1. The blast produced by the exhaust steam really and virtually consists of a number of distinct and successive impulses, which are by no means equal in effect to one continuous draught, such as is produced by a jet of steam taken direct from the boiler, by a pipe either inserted into the boiler itself, or into the steam pipe for conveying the steam from the boiler to the cylinders, which is attended with this further advantage, that the engine-driver has it always in his power to regulate the blast according to the requirements of the engine for the time being.—2. The pressure required to be sustained by the boiler is less when the jet is employed for this purpose instead of the exhaust steam, which is certainly an important consideration, in so far as the pressure is reduced, and the tear and wear of certain important parts of the boiler and engine are also correspondingly reduced. Or, if it should be desired to work with the same pressure of steam in the boiler, there will be a greater effective power of the engine at command. Let us suppose that it takes the same quantity of steam to produce equivalent degrees of blast, whether the steam used for this purpose is passed through the cylinders or by a jet pipe from the boiler; if the steam be passed through the cylinders, the blast is produced by throttling the exhaust pipe to an extent varying more or less from 2½ to 5 pounds on the square inch, which will, under the most favorable circumstances, as to form and size of steam passages, produce a back action of 3½ to 5 pounds on every square inch of the piston, to be deducted accordingly from the effective power of the engine. Mr. Josiah Parkes has estimated this back action at one-fifth, or one-fourth, of the whole power of the engine. On what grounds he has come to that conclusion I am not aware; but it must be very near the truth, because the throttling of the exhaust takes place at the very point of escape, which must oppose an increased friction to the issue of the steam through the steam passages and ports; so that, while the indicated pressure of steam from the nozzle of the exhaust pipe stands at the lower number of 3½ pounds, it will produce a back action of 5 pounds, or even more, upon every square inch of the piston. If, on the contrary, the blast be produced by a jet pipe, then the exhaust may be of the finest possible kind, and, perhaps, instead of being projected into the chimney, where it would only impede the draught, it would be better to discharge it by a pipe placed immediately in front of, and close to, the chimney.—3. The superiority of the jet, as compared to the exhaust blast, is greatly enhanced, from the diminished risk there is of setting fire to the goods train, or other property situated on the line of rail, the loss from which forms no unimportant item in the expenditure of some lines."

Conway Tubular Bridge,

We find in the "Civil Engineer and Architect's Journal," for June, a anccount, with illustrations, of this extraordinary work, which we should like well to lay before our readers, but the illustrations are too expensive for us just now. We hope, however, yet to find in some of the English journals, engravings upon a smaller scale, and less expensive.

The following extract will give a pretty accurate idea of its construction, shape, etc.

"The tube consists of a shell, or external casing, of wrought iron plates, from 4 to 8 ft. long and 2 ft. wide, by ½ inch thick in the centre, and $\frac{5}{8}$ths of an inch thick towards the end of the tube, rivetted together to T angle iron ribs, placed on both sides of the joints, and angle gussets at the feet of the ribs to stiffen them; a ceiling, composed of 8 cellular tubes, each 20¼ inches wide, and 21 in. high; and a floor containing 6 cellular tubes, 27½ inches wide, and 21 inches high. The whole length of the tube is 412 feet, and 22 feet 3½ inches high at the ends, and 25 feet 6 inches high in the centre, including the cellular tubes at top and bottom, running the whole length, and 14 feet wide to the outside of the side plates. The upper cells are formed of wrought iron plates, ¾ inch thick in the middle, and ½ inch thick towards the ends of the tube, put together with angle iron in each angle of the cells; and over the upper joints is rivetted a slip of ½ inch iron, 4½ in. wide. The lower cells consist of ¾ inch iron plates for the divisions, and the top and bottom of two thicknesses of plates, each 12 feet long, 2 feet 4 inches broad, and ½ inch thick in the centre, and ¼ thick at the ends, and so arranged as to break joint; and a covering plate of ½ inch iron, 3 feet long, is placed over every joint on the underside of the tube. The external casing is united to the top and bottom cells by angle iron, on both the inside and outside of the tube.

"The ends of the tube, where it rests on the masonry, are strengthened by cast iron frames, to the extent of eight feet of the lower cells; 6 cast iron transverse I shaped girders on the floor; 6 similar girders above; and upright cast iron stantions on each side of the

tube, to which are bolted the ends of the girders, top and bottom, and also the cross lifting girders.

"In order to allow of the free expansion and contraction of the tube, the ends rest on 24 pairs of iron rollers, connected together by a wrought iron frame, and placed between two cast iron plates 12 feet long by 6 feet wide, and 4 inches thick. The lower plate is laid on a flooring of 3 inch planks bedded on the stone work; and the tube is also suspended to 6 cast iron beams, the ends resting on longitudinal bearers 12 feet long, with a circular groove on the underside, supported by 12 gun metal balls 6 inches diameter, standing upon an iron bed, and supported on the ends of the cast iron bearers. The tubes are suspended to the beam by wrought iron bolts and spade pieces rivetted on to the sides of the tube."

We should like also to give a description of the lifting apparatus—but it would not be as well understood without the illustrations and references as the tube—therefore it is omitted.

IMPROVED LOCOMOTIVES.—PEARSON'S PLAN.

We published last week an account of Pearson's improved locomotive. We are now able to give an illustration of it from the Civil Engineer and Architect's Journal, from which a better view may be had of it. We give it with its accompanying description.

Fig. 1.

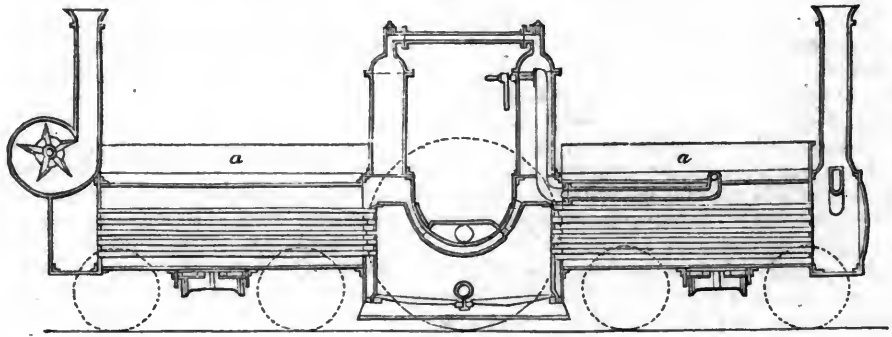
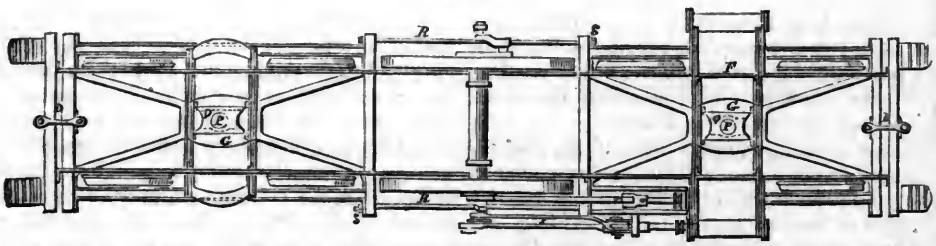


Fig. 2.



James Pearson, of New North-terrace, St. David's, Exeter, for "*certain improvements in locomotive engines and carriages.*"—Granted October 7, 1847; enrolled April 7, 1848.

This invention applies to several parts of locomotive engines and carriages. One part consists in the form of a boiler, which is made with the fire box in the middle part of the boiler, instead of being at one end. The general outline of the boiler is such as would be formed if two locomotive boilers of the ordinary construction were placed end to end with their two fire boxes about four or five feet apart, and the parts of the fire boxes below the fire door were joined together by an additional piece of fire box, so as to connect the two ends together into one large fire box in the middle of the boiler with a chimney at each end, (fig. 1); or the boilers may be entirely separate and distinct, that is to say, having two entirely separate and distinct fire boxes butting against one another, and having water and steam communications common to both, but which may be shut off from either boiler at pleasure. The axle of the driving wheels is placed in the middle of the boiler, above part of the fire box and below the foot plate, so that any desired amount of weight of the engine may be brought upon the driving wheels, and at the same time the centre of gravity may be kept very low. The axles of the trailing wheels are placed below the cylindrical part of the boiler, and two pairs of these are placed in one swivel frame at one end, and two pairs in a similar frame at the other end. The two frames are coupled together by two tension rods R, (fig. 2). Near the ends of these rods R, are placed springs E, made of vulcanised India rubber, and beyond these springs are nuts to confine them. The use of these springs is to allow each swivel frame to adjust itself to any inequality of the road, and to bring it back to the straight position when the road is even. The swivel centre pin P, is fitted into a socket Q, which is allowed to slide a little endways in guides G, to allow for expansion and irregularities, and the holes in the links L, are made oblong for the same reason, and that the links may pull instead of pushing. The boiler and engines are supported on a long upper frame F, which is attached to the lower swivel frames by the two centre pins P, P, and by the links L, at the end of the engine. The whole forming one compound swivel frame.

The coke box *a*, *a*, is placed on the top of the boiler. The water tank may be on a separate tender, or may be placed between the coke box and the boiler, or attached in any other convenient way. The two steam heads may be connected at such a height as is convenient to leave head room for the engine man.

Another part of the invention consists in the application of an exhausting fan in the smoke box to draw the heated air through the tubes of the boiler, and to discharge it either up the chimney, as shown in fig 1, or, if preferred, it may be again returned as hot blast into the furnace. This fan will allow the use of waste steam pipes of a large size direct from the cylinder into the open air, and so avoid the great pressure on the back of the piston when the ordinary blast pipes are used. The fan or fans may be driven by bands from pulleys on any of the wheels or axles, or by a small engine fixed on the side of the boiler, which may also if required work the feed pumps. The fans if driven by pulleys must each have two pairs of pulleys and suitable clutches. one pair driven by an open strap, and the other pair by a crossed strap, so as to drive the fans always in the same direction, whichever way the engine may be going.—The clutch gear may be attached to the engine reversing gear if required.

Another part of the improvements relates to coupled locomotive engines, in which arrangement the compound swivel frame is adopted. There are other improvements mentioned, but they are merely variations of those already explaned. The patentee does not claim the invention of swivel or "bogie" frames generally, but his claims are, the compound swivel frame, with coupling rod, provided with elastic springs or cushions, and the various attachments to the upper frame; the form of boiler; the use of exhausting fans for obtaining strong draught; and the compound swivel frame, connected by rods with elastic cushions, and provided with guides and end links, as above described.

Morris Canal and Banking Company.--Report for 1848.

Continued from page 408.

Statement A.

I.—*Machinery, Including Wire Ropes.*

1st. Water Wheel.—The estimated cost of the water wheel was based upon an offer of Merrick & Town, of Philadelphia, to furnish a turbine wheel, of the power required, for the sum of $1,000

It was afterwards decided to use the kind of wheel called the "Scotch Motor"—which cost $1,760.

Excess of cost over estimate $760.

2d. Transportation of the Machinery.—Extra price was paid for transporting most of the machinery, in order to secure its being delivered in the shortest possible time after it was completed at the shops. The amount of such extra pay, excluding the transportation of the large cylinder, and the wire ropes, was $130.

Owing to an accident at the foundry, which destroyed the first mould and core for the large cylinder, it was not completed, and it was too late in the season to justify an attemp. to transport it by water. Its weight was 6½

tons, and to transport it by land required a team of 15 horses, and a wagon of wider tread than ordinary. No person could be found who was willing to undertake the job for a stipulated sum, and agree to deliver it, at that season of the year, in the time required. The best offer that could be obtained was $25 per day—the company to provide the wagon. It was detained on the way several days, by civil process against the teamster, in consequence of injury done to some public bridges, and in obtaining permission to cross others, during which time it rained two successive days. This made the roads nearly impassable with such a load—the last 15 miles required five days, with the constant aid of eight men during the whole time. The total cost of transporting the cylinder, and expenses incident thereto, was $862 68.

If transported by water, the cost would not have exceeded $100.

Making the extra cost $762 68.

The first coil of wire rope was delivered at Philadelphia at $1 25 per 100 pounds. About 100 miles of the Juniatta canal was carried away by a freshet, just as the remaining ropes arrived at Hollidaysburgh. In consequence of this, they were taken back to Pittsburgh, and transported by land to Chambersburgh—and thence by railroad to Philadelphia, at a rate which made the increased cost of transportation $334 30.

The ropes arrived at Philadelphia at the time the canals were closing—and the amount paid, to secure their being delivered at the plane, (including the risk of taking them by land, if necessary,) over and above what would have been charged under ordinary circumstances, was $45.

3d. Additions.—After the estimate had been submitted, a heavy bed plate, for the principal parts of the machinery, was added at an expense of $176 08.

4th. The machinery was "put up" during the inclement months of December and January—which rendered it necessary to employ an extra number of machinists, at some sacrifice of economy. This, it is believed, added one-half to the necessary cost of erecting machinery—making the extra cost $123 54. Total $2,331 60.

II.—*Work at the Plane, exclusive of Machinery.*

The estimate for this work was based upon bids previously received for it. The work was declared off, to J. L. Bevins & Co., on the 7th of August, and the parties notified of it by letters mailed on that day, to each of the partners. No answer was ever received from either of the letters. On the 23d of August the work was let to another party, at prices nearly the same as those at which it was first allotted—the contract requiring the work to be constructed with all "practicable despatch"—the company's engineer to be the judge, as to whether the work was so prosecuted.

On account of some difficulty in obtaining possession of the necessary land for the site of the new wheel pit, that part of the work which required the most time for its construction, was still further delayed.

About the middle of September, the contract was virtually abandoned, and the work thereafter prosecuted by days' works, under the supervision of the company's agents.

On the 8th of October, a large break in the canal occurred at the foot of this plane, which carried away a portion of the new work, and nearly suspended its further prosecution, for one week, during the repair of said break.

The masonry of the water wheel pit was still further delayed, in consequence of an accident at the foundry, by which the large quadrant-curve pipe, (which pipe passes under said masonry,) was broken. It required two weeks to replace this pipe.

Every possible effort was made to hurry the work, by increased pay, where it was necessary to secure a sufficient force, and by working nights, at such work as could be safely done in the night.

In consequence of these unavoidable casualties, and delays, a large portion of the work had to be done during the inclement months of November, December, and January, and a considerable portion of the masonry had to be laid in the middle of the warmest days, and immediately covered with straw, earth, or water, to protect it from frost.

The quantities of work have not been increased beyond the first estimate. The increased cost growing out of the casualties, and other causes, above mentioned, is believed to be not less than one-third of the total cost—or $3,585 28.

Bring forward increased cost on machinery, $2,331 60.

Total increased cost by additions, casualties, etc., $5,916 88.

Amount of the first estimate is $21,000.

Estimate, with increased cost by additions, casualties, etc., $26,916 88.

Total cost $27,168 33.

Difference $251 45.

STATEMENT D.

The average time of the round trips of all the boats which ran exclusively from the Lehigh coal mines to Newark, via the Morris canal, during the whole season of 1847, was 20·84 days.

The shortest round trip was performed in 18 days: and about one-sixth of the whole were performed in less than 17 days each, and one-third in less than 19 days each.

The trip to and from Jersey city will require one day more time, than to and from Newark. And the time of making a round trip will be shortened $2\frac{3}{4}$ days by the first improvement of the planes, making the average time as follows:

Average time to Newark in 1847	20·84
Additional time required to come to Jersey city.	1
	21·84
Deduct time saved by the improved planes....	2·83
Making total time of round trip to Jersey city.	19·01

The average time of round trips from Mauch Chunk to and from New York, via the southern route in 1846, as ascertained from the collector's books at Mauch Chunk, was over 24 days. These trips were made via Bristol.

It is expected that the outlet lock at Well's Falls will effect a saving of $2\frac{1}{2}$ days on the round trip. This will make the average time, via the southern route, $21\frac{1}{2}$ days.

STATEMENT E.

Extracts from English Testimonials.—Extract of a letter dated September 3d, 1847, from Wm. Kuper & Co., makers of wire rope in London, to their agent, Alfred F. Kemp, No. 75 Broad street, N. Y.

"We have had a rope at work in some of the slate quarries in North Wales for (we believe,) more than six years, and the last account we had of it was, that it still looked remarkably well. This works for a great extent through water, and the only means adopted for preserving it have been an occasional coating with tar and pitch."

SEGHILL COLLIERY, May 1st, 1847.

I have great pleasure in giving you an account of the wire ropes now in use at the colliery; that which has been longest at work, and which is, I believe, the first wire rope that was used in the counties of Durham and Sunderland, has given the greatest satisfaction. The bank upon which it works, rises 1 in 47, and the weight of train, exclusive of friction, is 84 tons. The size of the rope is $2\frac{7}{8}$ inch, weighing $6\frac{3}{4}$ pounds per fathom, and its length is $1\frac{3}{4}$ miles.

This rope was put to work on the 12th June, 1841, and in my opinion, will continue to work for some time to come; whereas a hempen rope never lasted longer than nine or ten months. On the same railway there is another of your wire ropes at work, which was laid on in July, 1842. and appears to work well; its length is $2\frac{1}{4}$ miles, and size $2\frac{3}{8}$ inches, weighing 4 pounds per fathom, besides others on the line, all of which have given the greatest satisfaction.

So convinced am I of the safety and economy of the wire ropes, that in a short time I shall not have a hempen rope at use.

Signed, CHARLES CARR.

NEWCASTLE ON TYNE, FEB. 23, 1848.

I find the patent wire rope now in use on the incline at the Cassop colliery is very greatly superior to the hempen ropes previously used. The last hempen rope, when in use for four months, was so far worn as to break with the loaded wagons attached; whereas your wire rope has been in use since 25th April, 1843, and up to this time there is no appearance of any failure in it.

Signed, H. L. REDHEAD.

HETTON COLLIERY, 5th April, 1844,

I have great pleasure in bearing testimony to the efficiency of the wire ropes. The Hetton coal company have the patent wire ropes in use upon nearly the whole of the self-acting incline and engine planes on their railway. Some of them have been at work for upwards of a year, and appear very little affected by wear. Signed,

JAMES GAIR.

COAL OFFICE, SHEFFIELD, Feb. 20th, '44.

In December, 1841, we put to work one of your wire ropes in a draining shaft. The rope has been at regular work since that time,

and does not as yet show the least symptom of wear. The weight of your rope was 5½ pounds per fathom, and it is working in a situation where we had been accustomed to work hempen ropes of about 10 pounds per fathom, which, on an average, have not worked more than 12 months.

We have had another rope of yours at work since the 2d March, 1843; it is working exceedingly well, and does not show the slightest degree of wear. Our opinion is, that wire ropes, properly made and used, will be found, for colliery purposes, far superior to hempen ones. Signed,

HOWNSFIELD, WILSON & Co.

TESTINING, NORTH WALES, Feb. 9, '44.

I beg leave to state, for your information, that our machine with your rope on, has this last year made 121,000 trips, lifting a load of four tons, one hundred and ten feet high, and as far as I can judge, the rope is as good as the day that it was put up.

Signed, JAMES LEISHMAN.

GOLD'S HILL IRON WORKS, WEST BROWNWICH, Feb. 29th, 1844.

We are exceedingly gratified to have it in our power to give you a satisfactory report of the patent wire rope you supplied us with. It has now been in regular operation, lifting a considerable quantity of coals daily in one of our collieries, upwards of 18 months, without the slightest appearance of defect in any part of it, in fact its durability has been a matter of astonishment to our foreman and others connected with the management of the colliery. Signed,

JOHN BAGNALL & SONS.

Extract from the Report of David Watson, superintendent of motive power on the Allegheny and Portage railroad, Pa., dated Dec. 1st, 1845.

"I cannot too strongly recommend the adoption of wire ropes upon all the inclined planes. Their strength and great security, when cars are attached with 'iron stops,' and their durability and cheapness in comparison with hemp ropes, are such as will, in my opinion, convert the most sceptical to their favor."

Wire ropes had been in use on one of the Portage planes two years at the time this report was made. Mr. Watson estimates that they will last four years, as used on these planes, where they are driven by the *adhesion, or friction of the rope* on double grooved sheaves, and carried on iron carrying pullies.

The report of the superintendent for the year 1847, does not mention the condition of the wire ropes. We are, however, informed by J. A. Roebling, Esq., the maker of said ropes, that those put to work in 1843, are still in use.

As these testimonials refer only to ropes then in use, it is impossible to infer with certainty, what their ultimate durability may prove to be.

Those used in the slate quarries in North Wales, under circumstances nearly analogous to the plan adopted at plane 6 west, have lasted at least 6 years—having been preserved from corrosion by an occasional coating of tar and pitch.

It appears that the first wire rope used at Seghill colliery was 1¾ miles long—that the usual load was 84 tons, on an inclination of 1 in 47—that it had been in use about three years, and was still in good working order.

This load subjected the rope to a strain one-fifth greater, in proportion to its weight and strength, than the ropes adopted on the Morris canal will be subjected to.

Hownsfield, Wilson & Co. used a wire rope in a draining shaft from December, 1841, to February 20th, 1844, over two years, at which time it did not show the least symptom of wear.

At Gold's Hill Iron Works a wire rope was used regularly in a colliery, upwards of 18 months, without the slightest appearance of defect in any part of it.

These ropes were used constantly, and in most cases in collieries, where the atmosphere is warm and damp, and consequently much more destructive to wire rope than the atmosphere above the surface of the ground, even when the rope is passed through water.

In one case 121,000 trips were performed in one year, without any perceptible wear of the rope. If we allow two operations, or trips of the plane, to pass each boat, going and returning, then 121,000÷2×65 tons, = 3,932,500 tons as the amount which, according to this statement, might be passed in one year, without any perceptible injury to the rope.

The ropes at plane 6 west are probably made of larger wire than any referred to in the above statements. The power is applied by winding the ropes on a large cylinder; instead of driving them by the *friction, or adhesion of the rope*, on double grooved sheaves—as is the case on the Allegheny and Portage railroad—and they are carried on wooden carrying pullies, so placed as to prevent the ropes from coming in contact with any thing but the pullies, on any part of the plane.

Under these circumstances, it is believed, that with proper usage, they may be expected to last at least 6 years, and pass a business equal to 1,000,000 tons eastwardly per year.

The cost of wire ropes is estimated at $3,250 per plane. If they last six years, and pass 624,000 tons per year, the cost of perpetuating those proposed for the first improvement, viz:—11 planes west of the summit, will be (11×$3,2500)÷(624,000 tons×6 years)=96-100 of a cent per ton—and to perpetuate wire ropes on the 23 planes, would cost (23×$3,250,)÷(1,000,000 tons×6 years) =1¼ cents per ton.

STATEMENT F.

Lake Hopatcong Reservoir.

This was originally a natural lake, covering 1,500 acres, and receiving the drainage from 16,000 acres. It now covers 2,700 acres, when the reservoir is full, and contains 12 feet depth of available water.

At the close of the navigation, in 1846, there was 6 feet 8 inches depth of available water in this reservoir, equal to 1,833⅓ acres ×43,560 sq. ft.×6⅔ ft.=522,303,200 cubic feet of water.

At the close of 1847, the available depth was 7 feet 3 inches, making 1,862½×43,560 ×7¼=567,913,500 cubic feet of water.

The amount of water required to pass a boat loaded with 50 tons up the old planes west of the summit, in their present condition, and return the empty boat, is equal to 865 cubic feet per ton of lading. And to pass the same boat down the planes, east of the summit, and return the empty boat, requires 535 cubic feet per ton, making a total of 1,400 cubic feet per ton.

The amount of tonnage which the water in the reservoir, at the close of 1846 and 1847, would have passed over the whole canal, from Easton to Newark, may be shown thus:

In 1846—522,303 200×1,400=373,084 tons.
In 1847—567,913,500÷1,400=405,626 "

The amount of water required to pass a boat loaded with 65 tons up the new plane No. 6 west, and return the empty boat, is equal to 220 cubic feet per ton of lading. And to pass the same boat, loaded with 65 tons, down said plane, and return the empty boat, requires 130 cubic feet per ton, making a total of 350 cubic feet per ton. This shows that the water in the reservoir, at the close of 1846 and 1847, would have passed over the planes, if constructed like No. 6 west, the following tonnage eastward, viz:

1846—522,303,200÷350=1,492,295 tons.
1847—567,913,500÷350=1,622,610 "

The locks which govern the amount of water required to pass boats through the lift locks, average 9½ feet lift. This makes the amount of water required to pass boats loaded with 65 tons, and return the empty boat, allowing two locks full of water to pass three boats, equal to 450 cubic feet per ton of lading. Consequently, the reservoir at the close of 1846 and 1847, would have passed through the lock the following tonnage eastward, viz:

1846—522,303,200÷450=1,160,674 tons.
1847—567,913,500÷450=1,262,030 "

HUDSON RIVER RAILROAD COMPANY.

Notice for Proposals for Cast Iron Chairs.—Sealed proposals will be received by the Directors of the Hudson River Railroad Company, at their office, No. 51 Wall street, until the 15th day of July next, for one million pounds (equal to 500 tons) of Cast Iron Chairs. The proposition to specify the price per pound, or per ton, delivered on the line of said Railroad, at such wharf or wharves in common use as may be designated by the Chief Engineer in the employ of the said Company.

The Chairs to be cast from re-melted iron of a good quality, that will make smooth and tough castings. A sample of the castings may be seen at the office of the company in New York, and at the engineer's office in Poughkeepsie. It will be required that the Chairs, in all particulars, as to dimensions and quality of iron, be according to the pattern furnished, so as not to require chipping to receive the rails, nor allow the rails to set too loosly in the chair.

The Chairs to be delivered, one-third in the month of November next, one-third on the opening of the navigation of the Hudson next spring, and the balance by the 15th of April next.

The party to any proposition that may be accepted, will be required to enter into contract immediately after the acceptance of the same. The Directors reserve to themselves the right to accept or reject proposals that may be offered, as they may consider the interest of the company to require.

A. C. FLAGG, *President.*

JOHN B. JERVIS, *Chief Engineer.*
New York, June 14th, 1848. 4t26

FULLER'S PATENT INDIA RUBBER Railroad Springs.—These Springs are composed of alternate layers of India Rubber rings and Metallic plates, and are superior to those made of steel, for the following among other reasons:—

First—On account of their extreme simplicity, and the impossibility of their being broken or damaged.

Second—Their lightness: the elastic malerial not being more than one-tenth of the weight of steel springs of similar strength, thereby saving many tons of dead weight in a long passenger train—a matter of great economy in working railroads.

Third—The facility with which the power of these springs may be regulated: first, by increasing or diminishing the diameter of the ring; and next, by increasing or diminishing the number of the rings in each Spring.

Fourth—It is a particnlarly good material for Buffers; because, when first pressed, they are much more elastic, and more easily acted on than steel; whilst the power of resistance, after yielding to a certain extent, increases in such a ratio as to prevent the possibility of the Buffer-head being brought to a *dead hard stop.* And from this arrangement, the most valuable results may be anticipated in cases of collision.

Fifth—The easy motion given to the cars and engines which are fitted with these Springs—there being none of that jarring or vibratory motion so apparent with steel springs; and consequently there is a great saving of wear and tear, both to the cars and the permanent way. The recoil of a steel spring is frequently more harsh than the actual giving of the spring in the first instance, and this recoil is altogether obviated by India Rubber Springs.

Sixth—The cost of India Rubber Springs will be found less than those of steel, and they are calculated to last very much longer.

These Springs and Buffers have now been tried for upwards of three years, under very able superintendence, and with the most decided success. They are in general use upon the principal lines in England and Scotland, (among which may be mentioned the Great Western, the Midland, the London and North-Western, the Eastern Counties, London and Brighton, London and Dover, North Staffordshire, and Caledonian Companies.) They are also used in other parts of Europe. The patentee, therefore, feels justified in stating that he is prepared to furnish not only a more efficient Spring and Buffer than any hitherto in use, but a more durable one, and upon terms which will effect a considerable saving to Companies.

The most satisfactory trials have been made as to the non-liability of this material being affected by extremes of cold or heat; nor will any amount of pressure permanently alter its shape or structure. The patentee therefore submits the invention to the public, with the confident anticipation of its successful and general adoption.

The patent for this invention was granted to Mr. W. C. FULLER, in October, 1846, and the same gentleman has patents for it in England and other countries in Europe. The sole Agent in the United States is Mr. G. M. KNEVITT, who will show models and drawings of the various modes of application to *passenger cars, engines, tenders, wagons, etc.*, and give further particulars as to its satisfactory working; and is prepared to supply the Springs in any quantity, or to grant licenses for manufacturing them.

Principal Office, 78 Broad Street, New York.

And a Branch Office at Messrs. JAMES LEE & CO.'S, 18 India Wharf, Boston.

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

HARTFORD AND PROVIDENCE RAILROAD.—Notice to Contractors.—Sealed proposals will be received by the Directors of the *Hartford and Providence Railroad Company*, at their office in the city of Hartford, near the Postoffice, until the 1st day of July, for the Grading, Piling, Masonry and Bridging of that portion of the road extending from the east bank of Connecticut River to Willimantic, about 29 miles.

The Maps, Profiles, Plans and Specifications will be ready for examination on and after the 26th day of June.

The line will be divided into convenient sections, and proposals may be made for one or all the sections, or for the whole work except the superstructure.

EDWARD H. BROADHEAD.
Chief Engineer H. & P. R. R.

Engineer's Office, Hartford, May 27, 1848. t24

RAILROAD IRON—500 TONS HEAVY ⏤ Pattern—to arrive. For sale by

DAVIS BROOKS & CO.
June 3. tf 68 Broad street, New York.

PENNSYLVANIA RAILROAD COMPANY. Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law.

GEORGE V. BACON,
May 13—8t Treasurer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Plaining, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { FAIRBANKS & Co., 81 Water st. N. York. A. B. NORRIS, 196 Market st., Philad.

April 22, 1848. 1y*17

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtis & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

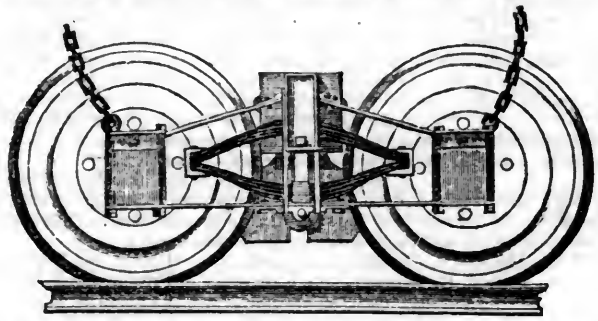
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.
May 6, 1848.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts. Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

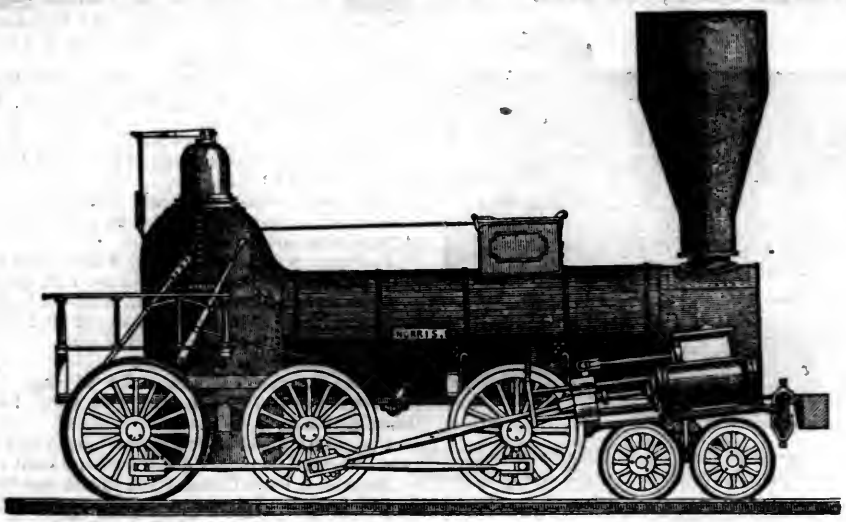
General Agent,

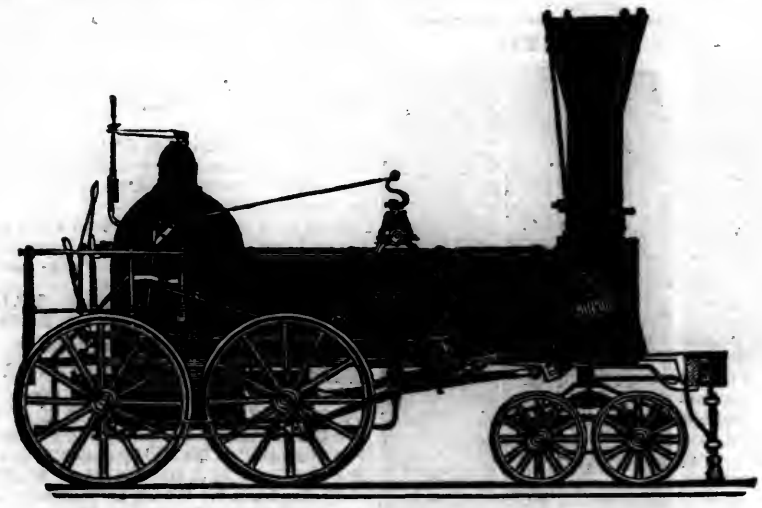
Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

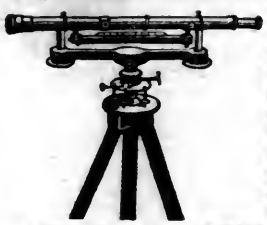
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus renderiug the expense of banding unnecessaiy; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any com mon spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

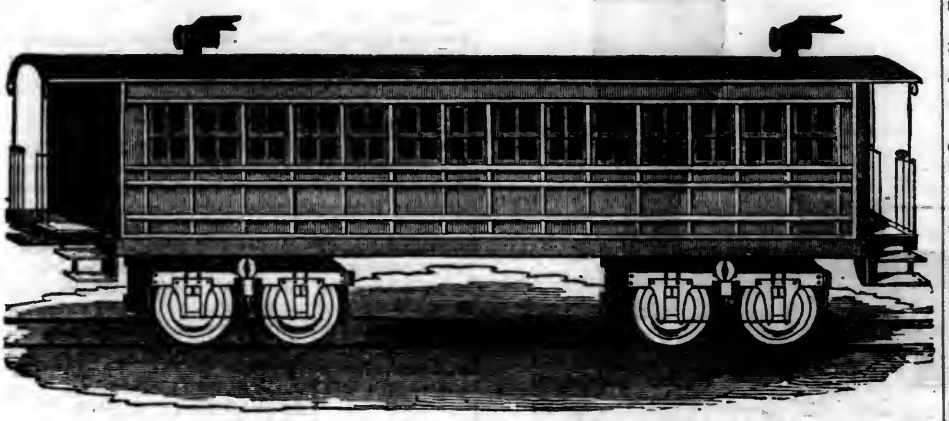
HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron mer chants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jar viers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartsbrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO,
No. 4 So. Front St., *Philadelphia*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.

Summer Arrangement.
Commencing April 17, 1848.

Trains leave Boston as follows, viz:
For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5½ p.m.
For Reading 7, 8½ & 11½ a.m., 2½, 4½, 5½, 6½ & 10 p.m.

Trains leave for Boston as follows, viz:
From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m
From Reading at 6, 7½, 9½, 11½ a.m., 1½, 4, 7½, 9½ p.m

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.
Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.
CHAS. MINOT, *Sup't.*
Boston, April 15, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.
WM. RAYMOND LEE, *Sup't.*

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelp'a.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, May 1st, 1848.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 10 a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Allyn's Point for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m.	and 3½ p.m.
Arrives at	9 a.m.	and 6½ p.m.
Leaves York at	5 a.m.	and 3 p.m.
Arrives at	12½ p.m.	and 8 p.m.
Leaves York for Columbia at	1½ p.m.	and 8 a.m.
Leaves Columbia for York at	8 a.m.	and 2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at ..... 5½ p.m.
Returning, leaves Owing's Mills at ..... 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pitsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon			$1 00
"	"	" Xenia	1 50
"	"	" Springfield	2 00
"	"	" Columbus	4 00
"	"	" Sandusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery.....	40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
.y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves....Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass..... Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass..... Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass..... Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at. Buffalo....	5½ A.M.	12 M.	6 P.M.

Going east.	1st train.	2d train.	3d train.
Leaves....Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass..... Rochester.	12½ M.	7 P.M.	12 M.N.
Pass..... Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass..... Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at. Albany....	5 A.M.	12 M.	4½ P.M.

Adopted Febrnary 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.
☞ *The above may be had at order at our Car Factory,*
REUEL DEAN, ELIJAH PACKARD, ISAAC MILLS, } SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by
IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.
These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

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☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, July 8, 1848.

Central (Ga.) Railroad.

The Savannah *Republican* publishes the annexed tabular statement, showing a gratifying aspect of the earnings of the Central Railroad for three periods of six months each. The results are encouraging, and the more so as the current expenses, instead of being increased, have actually been diminished.

Earnings of the Central Railroad for the respective first six months of the years 1846, '47, '48.

	1846.	1847.	1848.
1845 December,	25,738 94	*53,824 19	†37,415 70
1846 January,	21,843 11	49,596 51	52,295 94
" February,	21,084 45	44,601 59	57,799 71
" March,	29,464 41	35,275 83	51,434 38
" April,	22,726 38	26,525 29	30,254 39
" May,	28,697 48	20,204 40	33,946 70
	139,554 77	228,927 80	263,146 82

The year of the company begins on the first of December.

* December 1846—† December 1847.

Kennebec & Portland Railroad.

A meeting of the Stockholders of this road, says the Bath Times, was held on Tuesday last, at the Elliot House in this city, quite numerously attended by gentlemen from different towns on the route. A vote was passed authorizing the Directors to loan money to any necessary amount on the credit of the company, and other business important to the enterprise was transacted. The best feeling prevailed, and most encouraging indications were made. It is intended to press the work with all possible dispatch from Portland to Bowdoinham and Bath, at the same time not neglecting the extension to Augusta. It is supposed that the cars may run from this city to Portland as early as January next.

Philadelphia and Atlantic Steam Navigation Co.—The following is the ticket of the stockholders for directors of this company:—Ambrose W. Thompson, David S. Brown, Benj. W. Tingley, Wm. M. Godwin, and John M. Odenheimer.

Camden and Amboy Railroad.

Its Privileges and its Abuses.

"Truth is mighty and will prevail," in this, as in other matters, when light is allowed to dawn in the dark places, and the people understand the whole matter. We cannot doubt the action of the people of New Jersey, upon this matter, when they fully understand the course pursued by this company—to whom they have granted such extraordinary privileges; because we cannot think it to have been their *intention*, or their wish, to become oppressors, alike of the poor, and the rich—or to authorise others to become so—as *is* the case, from their past legislation.

The communication which we give in this number, is from one who has investigated the matter, and it gives an insight into the operations of the company, which ought to be universally understood, not only by the people of New Jersey, but also by those who have paid the exorbitant charges for transportation during past years. If the company have the *right* to make such charges, let it be so understood, and acquiesced in, or the proper course pursued to effect a change; but, if they have *not* the right to charge exorbitantly, and have been *unjustly*, and *illegally*, exacting from the business community for years, let them be dealt with as *others* who disregard law, except where they require its aid, for preventing a fair competition.

It has been, and may again be, asked why we are so decided in our opposition to this company. In reply we have only to say, that we have not, and never have had, any unkind feelings towards the company, nor the gentlemen whom we consider its principal managers; but, on the contrary, have long entertained high respect for some—though never personally acquainted with any—of them, yet we consider the course pursued by them, in the management of their railroad, as calculated to work more injury to the railroad cause, and to produce more prejudice against the railroad system, than *all* the mismanagement of *all* the other railroad companies in the country *combined*; and for the simple reason that they are *strictly* a *monopoly*—prohibiting rivalry and competition—which can be said of few other railroads in this country—as in no other case that we now think of has the legislature of a State prohibited their successors from chartering *other* lines, on *other* routes, between the same points—and therefore it is that we make war upon their—as we consider it—oppressive, unjust, and—to their *stockholders*, as well as to the business community—*unprofitable* system of management.

Let them adopt the system pursued by the managers of the two distinct lines of railroad between Boston and Portland, in Maine—a system which is designed to encourage and foster the business of the country through which they pass, and of the cities at their termini, and they will find few people disposed to complain of their charges, or of their general management; on the contrary, *every one* would rejoice in their prosperity, and never would the Railroad Journal be found arrayed against them; but, whilst they pursue their present unjust and oppressive course, towards all—not only the business man of large means, and the poor man who barely earns a living for himself and family—as we saw a case on the 1st instant, where a *porter*, carrying a trunk for a gentleman, to the *early morning* line, was obliged, for want of *baggage cars on the Philadelphia side*—to cross over to Camden and pay five cents each way, that he might fulfil his duty, and give the gentleman his check—they must expect to be reproached by all—and *cursed* by many—who are thus wronged by them.

Possibly it may be said that the agent of the company would have paid the ferriage of persons thus obliged to cross over, when the fault was so evidently that of the company—or that the ferry master would not exact ferriage—but for a person to suppose such a case, is proof positive that he is not familiar with the general system of management. When the ferry master was informed of the facts he said, in reply, "the company only pay the ferriage of the *passengers*," and when the agent, who sold the tickets, was appealed to, he said "the porter ought not to be charged, but I have no control over the ferry master—perhaps he will not exact if you explain the case to him." Full explanation had, however, been made to him—and his answer is given above—from which there was no appeal.

Ten cents, it is true, is not a large sum for the company, or the people of New Jersey, to lose, but it was *two-fifths* of what the porter got for his labor, besides consuming a *full hour* of his time in crossing, *delay at Camden*, and recrossing the river—which to him was a serious loss, in addition to the

dime for ferriage. This is only one amongst the numerous instances of oppressing the poor, as well as the powerful, which cry aloud to the *people* of *New Jersey* for relief; and we are convinced that they will grant relief when they understand the truth.

To the Editor of the American Railroad Journal:

Having been frequently applied to for information in relation to the recent decision of the Supreme court of New Jersey in the matter of the charges for freight by the Camden and Amboy railroad company, I am induced to offer you the following statement, hoping that you may find it worthy of a place in your excellent Journal, and worthy to be preserved for future reference as a record of modes of action still existing in the year 1848.

By the original act incorporating that company, passed in 1830, the rates of toll were limited to eight cents per ton per mile for merchandise, and ten cents per mile for passengers. In the following year another act was passed granting further powers to the stockholders. It had then been discovered that men and things could be carried very cheaply on railroads, and accordingly the charge for passengers was limited to three dollars for the whole distance, but nothing was done in relation to the charge for merchandise, that portion of the railroad trade not being then deemed of much importance. In the following year the company obtained the passage of another act, granting them an exclusive monopoly of the trade between New York and Philadelphia, the State agreeing not to charter any road that could compete in business with them.

From this statement, it will be seen that the State, while granting a monopoly of the trade between the two cities, desired to fix the rate of charge, and that it did fix that rate, for the whole distance, so far as regarded passengers. Having omitted this precaution in regard to merchandise, it is claimed by the company that there is in reality no limitation whatsoever, because of the clause in the charter which fixes the rate of eight cents per mile applying to the railroad portion alone, and not to that other portion which is between Amboy and New York, upon which they may charge what they please. The extraordinary effect of this may be seen in the receipts for merchandise now granted by the company. Upon them, it is stated that the charge for transportation by the railroad is at the rate of eight cents per ton per mile, and yet the charge for the whole distance is at the rate of more than twelve cents per mile. Thus a package weighing 560 pounds is charged.....$2 80
At eight cents per ton per mile, the railroad charge would be..... 1 20
The balance, being $1 60, is the charge for transportation from Amboy to New York, which would be overpaid at 25 cents. Such is the construction put by the company upon a law which, even when strictly construed, authorizes them to charge more than three times as much as would be charged by others under a system of free competition, and it is for carrying into effect their own construction that they have been brought before the courts of New Jersey.

Enormous as is the above charge, it is moderate when compared with many others. For many years the importers of silk goods paid one cent per pound, or $22 40 per ton. The legal charge on such goods for the 60 miles of railroad was $4 80, and the balance, $17 60, was for the transportation by steamboat from New York to Amboy, a work that would have been richly paid for with a single dollar.

A package of domestic goods from Boston to New York, weighing 560 pounds, would pay about 75 cents for travelling 50 miles by railroad and 170 miles by water.* The same package coming from New York to Philadelphia, travelling 35 miles by railroad and 55 by water, would pay $2 80, to which would *certainly* be added 25 cents for cooperage, it being the rule of the company to cooper almost every thing that passes through its hands, and thus add many thousands of dollars per annum to the profits of transportation. Here we have a monopoly charge of more than three dollars for 90 miles against a free trade charge of seventy-five cents for 220 miles. Taking into view the proportion which the carriage by railroad bears to that by steamboat, the distance in the one case may be taken as being about double that of the other. The rate of charge is therefore about 8 to 1, and yet this is based upon a demand of only 50 cents per hundred pounds, whereas they were, for many years, accustomed to charge for fine goods double that price.

What renders this course of proceeding the more remarkable is that the managers of the company have never admitted that the company itself was entitled to more than the legal rate of $7 20 per ton. In the report furnished last winter to the State of New Jersey, which owns one-fifteenth of the stock, the quantity of merchandise carried through, and the amount received for it, are thus given:

Through transportation, including two express lines, 34,965 tons, 2 cwt., 2 qrs., 6 lbs.....$240,152 46

This gives $6 86 per ton, or about 7 3-5 cents per ton per mile.

The price actually received for transporting this merchandise, averaged probably $11 per ton, and if so, it must have amounted to.....$384,620
The amount allowed to the stockholders was 240,152

Leaving a profit to the managers of..... 144,468
To which may be added as the profit of cooperage..... 6,000

150,468

Every dollar of which was illegally, and therefore fraudulently, extracted from the pockets of those who had occasion to use the road.

The road is thus farmed by the managers, and used for their own profit, without reference to the interests of the stockholders, who are greatly damaged by these enormous charges, by which business is driven from the road. It may, I think, safely be assumed, that if the legal charge had been adhered to, the transportation on the road would now be double, if not treble, what it is, and if the latter, the amount received in the last year would have exceeded by $480,000 that which was received, while the expenses would not have been increased $50,000. If so, the loss from this course of proceeding in reference to this single portion of their business, was more than the whole amount of their dividend, which, notwithstanding the vast amount of business, the enormous charges, and the cheapness of the construction of the road, was but 12 per cent. when it might have been 30 per cent.

The Supreme court has decided, and most righteously, that the limitation to eight cents per ton per mile applies to the whole distance. The managers admit that the company has no right to demand more than that sum, as may be seen by the extract I have given from their accounts, but they claim that they, as managers, have a right to farm the road to themselves, and to charge what they please, without reference to the rights of the public, as secured by the provisions of the charter, or to the interests of their fellow-stockholders, and it is to secure *themselves* in the exercise of the right thus to manage the road, that they have now appealed to the Court of Errors. Such a claim was probably never before brought into a court of justice in this or any other land. It cannot stand.

It will readily be seen that the interests of the stockholders are entirely at variance with this pretension of the managers, and that, as the State is a large stockholder, it is greatly interested in putting an end to the system. To reverse the recent decision of the Supreme court, would be to declare that the State, while granting a monopoly of the trade, had affixed no limit to the rate of charge, and that the managers might, at their pleasure, raise it to twenty, fifty, or a hundred dollars per ton. Every feeling of justice is therefore united with self-interest in establishing that decision as the law of the land, and it is not to be doubted that it will be confirmed.

To the managers it is a most disastrous decision. They, and not the company, were the real defendants in the case, and they are now the appellants. They, and not the company, have been receiving the surplus, and they, and not the company, are the parties who must refund that surplus, and pay the penalties. By law, every farthing received by them over 32 cents per hundred pounds, *within six years*, must be refunded, and for *every single bill* that has been paid to them within the last twelve months, they are liable to a penalty of one hundred dollars—*provided suit be now commenced.* It will at once be seen that all those who have been thus overcharged, are armed with power to compel the repayment of the surplus charge, provided they do not permit themselves, by delay, to lose the opportunity of demanding payment of the penalties.

The case has been hung up by the managers in the court of Errors, not, as I believe, with any expectation that the decision will be reversed, but with a view to delay its final confirmation until the year shall run out, and thus relieve themselves from the enormous amount of penalties to which they are liable. Every day that elapses without the institution of suits, is a day gained, because the bills of that day twelve months are then dead, as regards the penalties, and of that day six years as regards the surplus charges. This gain to them is an equal loss to others, and it behooves all those who would have justice, to look to it, and to keep their claims alive, so as to be ready on the confirmation of the decision to *demand* settlement for the surplus charges, even if they be willing to release the penalties on condition of prompt payment.

It is time this monopoly should be ended, and as the law has now armed the merchants and traders of Philadelphia and New York with power to contribute greatly towards bringing its existence to a close, it is important that they should not lose the opportunity. They have been plundered and trampled upon long enough. They have been refused all compensation for damage or loss, and have been baffled in all their attempts to obtain redress in the courts of law. Every man of them should recollect that by looking to his accounts, and making a legal demand of payment, he will do much towards relieving himself and his neighbors from the system of fraud and oppression under which he and they have labored, and every one should feel that in omitting to present his account for surplus charges and penalties, he fails in the performance of a duty that he owes to himself and to the community.

A Citizen of Burlington.

* The charge is six cents per cubic foot, and such a package would measure about 12½ feet.

Milk and the Railroads.

The quantity of milk transported on the Balt. and Susquehanna railroad, says the Baltimore Clipper, during the month of April, was 11,068 gallons, and during the month of May, 13,291 gallons, which, at two cents per gallon, the price charged, gives a monthly revenue of $265 82, and an annual revenue of $3,723 36—more than one-half of the whole amount now received by the company for the transportation of the U. S. mail.

Speaking of *milk* reminds us of strawberries and milk brought to New York *one day* last week, by the New York and Erie railroad, which is reported at over 50,000 baskets of strawberries, and 12,000 gallons of milk.

New Railroad Depot.

We are pleased to learn that it is contemplated by the Baltimore and Susquehanna railroad company to erect a commodious passenger and transportation depot on a large lot of ground within the bounds of North, Calvert, Franklin, and Centre streets, belonging to the Baltimore Water company. Should this design be carried into effect, it will prove a great advantage to that section of our city, as well as to the railroad company, and prove, we trust, but the beginning of still further improvements in that vicinity.

Richmond and Danville (Va.) Railroad.

We understand, though we have not yet seen the notice, that proposals for letting 12 miles of this road, including grading, bridging, and masonry, will be received until the 11th of July next, at the office, in Richmond, we presume, and we would call the attention of contractors to the subject.

Extension of the Central, Western, Railroad.

The St. Louis Republican contains the following information in relation to the extension of the railroad from Cincinnati to S. Louis. Throughout the west in the region of the proposed route, there is a good feeling existing in favor of extending the Central railroad from this city to St. Louis:—

"*The Ohio and Mississippi Railroad from Cincinnati to St. Louis.*—We are gratified that a strong move is making to put this enterprize into operation and under circumstances which auger the most favorable results. The company has been organized under a charter granted by Indiana, and although the books for subscription to the stock have not been opened, steps have been taken to secure a complete survey of the entire route, and a careful estimate of the costs of construction—also an accurate collection of statistics in relation to the counties and towns through which it will pass, and the probable amount of the trade and profits of the road. It is intended to have this survey made, and the facts in relation to its costs and profits collected by an eminent engineer, whose standing and reputation will give assurance of the correctness of his statements.

"For the purpose of securing this survey, etc., the directors have made an assessment upon every county along the line, and upon this city and Cincinnatti. In every county where the effort has, as yet been made, more has been raised than the amount required. In this city where the sum of two thousand dollars was expected, the directors with very little exertion raised the amount, and could have easily raised much more if it had been necessary.

"This demonstration may be received as a very satisfactory evidence of a new and wholesome feeling on the subject of internal improvements in our community. The people are becoming satisfied of the utility and necessity of this species of improvement, and when it becomes necessary, we feel assured that there will be a liberal subscription to the stock of the company."

The tide, in favor of railroads, is setting in with a *mighty current* in the western States. The line here indicated, from Cincinnati to St. Louis, is through one of the most fertile regions of the west—a country capable of sustaining as dense a population as any other region on the globe—and a railroad will be, unquestionably, built through it within a few years.—Ed. R. R. J.

Central (Michigan) Railroad.

The *influences* of this road are beginning to be felt in Detroit, as we learn from the Free Press of that city of the 12th ult.

"We took," say the editor, "a hasty stroll a few days since through the immense freight and passenger depots of the Central road, and also the machine shops and engine house. The depots we have before given our readers a description of, and we now propose noticing briefly the other improvement contemplating and progressing. The buildings are all erected in a solid substantial manner, and the style and arrangement of the interior both convenient and comfortable, and will be, when finished, an ornament to that part of the city.

"The Machine Shop, is about finished, and already a number of lathes are running, and more will soon be put in operation. The main structure is 64 by 90 feet with two wings; one 47 by 40 feet, the other 40 by 63 feet. The main part is three stories high, and the two wings two. The ground floor of the north wing is to be occupied by thirty forges arranged on each side of the building, a number of which are now in use. The blowing is all to be done by machinery, thereby doing away with the old fashioned bellows. A trip hammer is also to be erected in this wing capable of doing all the work required by the company. On the ground floor of the main part of the building and also second floor are to be placed turning lathes, planing and drilling machines of every description a number of which are now in operation of the largest magnitude. The south wing is now used for the manufacturing of steel springs and has a furnace constructed on a new plan for the purpose of heating the material. Some other part of business is also to be done in this room. * * * *

"The Engine House, attached to the machine shop is a small building 25 by 18 feet, sufficiently large for the engine that is to propel the whole machinery. The stationary engine is a beautiful piece of workmanship, built in the shop of the company under the superintendence of Mr. Petit, who has the sole charge of this branch of the business. It occupies a small space, and at the same time is fully adequate for all the purposes required. It has a 14 inch cylinder 3 feet stroke and of 40 horse power. The balance wheel is 16 feet 6 inches in diameter, weighs 5000 lbs. and will make with a full head of steam 40 revolutions per minute. The boilers are built similar to a locomotive with 11 flues each 12 feet long 2 inches in diameter and are so arranged that the fire passes under them to the end and thence back to the front again, and either wood or coal can be used for heating them. Taken throughout, it is a perfect piece of workmanship, and combines both durability and beauty, and finished up in a manner surpassing the usual style of machinery.

"The Locomotive or Round House; which is not yet finished, is adjoining the machine shop on the side towards the river, and when completed, will make a magnificent appearance. It is a circular building, similar to the one at Greenbush on the Boston road, 130 feet in diameter, a wall 16½ high covered with a massive dome 65 feet high in the centre, to be surmounted with a cupola, 90 feet to the lantern, being the most extensive building of the kind in the United States. In the centre of this house is a platform, on a swivel for the purpose of turning round the engines, and sixteen of the large locomotives have ample accommodation in this building for repairing and cleaning up.

"The Car House, is to be situated above the other shops, and has not been commenced yet. The dimensions of the building are 169 by 55 feet, and 30 feet high, constructed of brick. In this shop the cars will be built and repaired, and all the necessary business of this kind performed.

"The Coal House, is also to be built of brick, the spiles being already drove for the foundation adjoining the locomotive building. It is 40 by 35 feet, 14 feet high."

Large and commodious as these buildings are represented to be, we now *predict*—and ask the Free Press to note the fact—that they will have to be *enlarged* within five years; there will not be sufficient room for the *regular increase of business* during the next five years—and they will have to be enlarged as a matter of course.

Railroad Convention.

A convention, numerously attended, was held at Salisbury, North Carolina, on the 6th of June, to concentrate public opinion, and devise ways and means for the construction of a railroad from Danville in Virginia to Charlotte, North Carolina, so as—in connection with the road from Richmond to Danville, Va., and from Columbia, S. C., to Charlotte, N. C., now in course of construction—to open a railroad communication through the *interior* of these States.

The proceedings of that convention were marked with spirit and determination.

The Richmond Whig says:—"This convention, which had been called to promote the establishment of a railroad connection between Danville, Va., and Charlotte, N. C., assembled at Salisbury on the 6th of June. A large number of delegates were in attendance from the following counties in North Carolina, viz: Mecklenburg, Cabarrus, Iredell, Wilkes, Surry, Davie, Davidson, Stokes, Guilford, Lincoln, Montgomery, and Rowan. Mr. T. S. Garnett, engineer of the South Carolina and Charleston railroad, appeared as a delegate from Columbia, S. C., and Major N. R. Eaves from Chester, S. C. Mr. C. T. Taliaferro represented Danville, Va.; Mr. B. M. Jones, Amelia county; and Mr. W. P. Tunstall, Richmond city.

"Hon. D. F. Caldwell, of Rowan, was made president of the convention, and delivered an impressive address in explanation of its objects."

"At the afternoon session the convention was addressed by Major N. R. Eaves, and Messrs. Jos. H. Wilson, T. S. Garnett, and B. M. Jones. The effort of the last gentleman, says the Salisbury Watchman, was 'most forcible and happy,' and was 'much applauded.'

"H. C. Jones, Esq., read a letter from Ed. Robinson, president of the Richmond, Fredericksburg, and Potomac railroad, accompanied with some appropriate remarks.

"The following is an interesting extract from said letter:

"Office Richm'd, Fred'g, & P. R. R. Co.,
Richmond, 25th May, 1848.

"The great amount of travel between the north and south, now conveyed by sea steamers and sailing packets between the northern and southern ports, must satisfy every one who will examine the subject, that no scheme of improvement will pay better than (if as well as) *a continuous line of railway between the north and south.* There can be no difficulty in bringing any amount of capital which may be wanted to bear on this object, with a charter *offering liberal inducements to capitalists, properly secured on a favorable line.* From an examination of the map, it would appear that no route could offer greater advantages for such an object than one filling up the gap between the railroads now in progress from this place to Danville, and from Charlotte to Columbia. The local business of this line would be probably larger than on any other route, whilst it would have the advantage of being free of any *transhipment* of passengers and freights."

"The committee appointed to report on business

for the general action of the convention, through their chairman, Mr. Tunstall, made the following report:

"The committee to whom was referred the general subject of the railroad from Charlotte to Danville, having given it such consideration as circumstances admitted, would respectfully report:

"The first aspect in which this enterprise strikes our attention, is derived from the condition of western North Carolina. The direct route from Charlotte to Danville will bisect a beautiful and fertile region of one hundred and forty miles, chiefly devoted to the pursuit of agriculture. The culture of the great staples of cotton, grain, and tobacco, are the leading interests of the communities residing in the counties of Mecklenburg, Cabarrus, Rowan, Davidson, Guilford, and Rockingham: without entering into details of estimating statistical results which are not commonly accessible, it may be fairly stated that these great interests are chargeable with freights varying from twenty-five to fifty per cent. on the value; and this evil, the committee believe, will be remedied so far as it is susceptible of remedy, by the construction of this road. But the wide region of North Carolina lying westward of its proposed line, will derive from it inestimable advantages. Blessed by nature with the advantages of climate and soil, and incalculable mineral and manufacturing resources, what is necessary to its becoming great and prosperous, but facilities of intercourse and the convenience of markets?

"The average distance of this region from the sea board is not less than three hundred miles. This insurmountable difficulty palsies the spirit of enterprise, and places industry out of the advantages of a fair and equal competition. The consequences are visible in the depression of prosperity—the discontent of our people—and that blight of emigration which has peopled more favored regions with our virtuous, intelligent, and enterprising citizens. These evils demand a remedy. We believe it to be in our own hands, and that nature and the conspiring circumstances which surround us, point to this work as its great instrument. All portions of western North Carolina, by the rivers which flow from our mountains—by lateral roads adapted to our productions, will have easy access to this road, and others placed in easy and speedy communication with the best markets of the nation. But your committee will not have done their duty to circumscribe their view to the great interests of North Carolina in its success. High patriotic and national considerations intimately connect themselves with the success of the undertaking. Wide as is the surface of our country, and diversified as are its interests, all these interests are harmoniously blended, and mutually sustain each other. Hence arises that immense stream of travel which, with the regularity of returning autumn, flows from the north to the southern extremities of the Union, and with opening spring, turns its reflex current to lose itself in the cities and on the rivers of the north and east. This travel is at once the offspring and the source of our national prosperity. It demands from the public the utmost facility of communication and transit.

"Nature points out to us, where this line is located, assuming that the Charlotte and South Carolina, and Richmond and Danville roads will be constructed. The completion of the Charlotte and Danville road accomplishes this communication, and affords from Portland to New Orleans the shortest, speediest, and cheapest practicable conveyance. The roads from Columbia to Charlotte, from this point to Danville, and thence to Richmond, through an interior region of beauty, fertility, and health, will commend itself to the public patronage. The profits of railroads are in proportion to their cheapness and their extent of business. All observers admit the advantages afforded for construction on the line of the proposed road. Along its whole extent there is not an obstacle of magnitude, and for the most part, an entire ridge of extraordinary equability would appear to have been designed by nature to solicit our enterprise. Your committee cannot enter into estimates of the great interests which will be subserved by this work. The local trade to which they have referred, derived from the agriculture, the merchandise, and the manufactures of three hundred thousand people, and a travel derived from the population of this great nation, are sufficient referees for this object. Patriotic considerations, therefore, blend themselves with views of individual interest and personal welfare to claim our regard and excite our labor.

Your committee therefore recommend the following resolutions, viz:

Resolved, That this convention regard the construction of the railroad from Charlotte to Danville as of the deepest importance to the interest of western North Carolina, and alike required by national considerations of most imperious obligation.

Resolved, That we regard this work as susceptible of as easy and cheap construction as any work of the same extent in the Union.

Resolved, That independently of the important local and national interests to be promoted by the work, fraternal feelings towards our sister States of Virginia and South Carolina requires at the hands of North Carolina every facility in effecting this line of communication between them.

Resolved, That this committee regard it as an imperious duty to use every laudable effort to promote the success of this enterprise.

Resolved, That a committee of seven persons be appointed by the president, whose duty it shall be to draft an address to the public on the subject of this road—to obtain charters from the legislatures of N. Carolina and Virginia, incorporating a company for its construction."

There can now scarcely be a doubt of the completion of the road from Columbia, S. C., to Charlotte, N. C., as much the largest part of it is under contract, and the work progressing nobly; and we feel quite encouraged in the belief that the people of Virginia will not falter in their work from Richmond to Danville. *These two* links being completed and in use, it would be difficult to prevent the construction of the remaining link—as it would be the *only* one wanting between *Bangor* in Maine—and we may say *Montreal* in Canada—and *Nashville* in Tennessee, and *Pensacola* in Florida, in the year 1852!—but to accomplish it, the people of Virginia and N. Carolina must *act*, as well as *talk* and *resolve*.

Resistance to Railway Trains.

We published in No. 24, June 10th, an article upon this subject. We perceive by the Railway Chronicle that the subject was again before the society on the 16th of May, when considerable discussion took place.

The principal speakers were Messrs. Brunel, Gooch, Bidder, Locke, Harding, and Russell, and their arguments were necessarily so complicated by calculations as to render it difficult to convey, within reasonable limits, even an outline of the discussion. It was contended on one side that the subject had been so treated in the paper as to make it almost a question of the comparative gauges; that the experiments upon which the arguments were founded could not be received as applicable to railways in general, inasmuch as it was presumed from the statements that the portion of the line was selected as being in the best working condition; that the engine and the carriages were also picked as being in the best order; and that therefore the results were due to these peculiar circumstances, and not to the ordinary working state of the line; that the amount of resistance per ton was understated by Mr. Gooch on these accounts, and that the rate of resistance arrived at by the committee of the British association, by projecting trains of carriages down inclined planes, was nearer the truth than the expression of resistance arrived at with the locomotive and the dynamometer; that the tables were partly made up from the actual results of the experiments, and by using Mr. Harding's formulæ, which had been repudiated in other cases as incorrect; that the greater weight of the trains in the late experiments, as compared with those of the British association, etc., reduced the value of the deductions; that the atmospheric railway could alone give the resistance due to the frontage, which was not given when a locomotive was used, as it covered a portion of the carriage frontage, and the dynamometer being behind the engine, the resistance of the train of carriages alone could be arrived at; and that the valuation of the pressure of the wind upon the train at various angles, was not satisfactory. Such was the general tenor of the arguments; and on the other side it was urged that Mr. Gooch had endeavored, as much as possible, to avoid introducing, in any degree, the question of the gauges, and to give the actual results of the experiments, in order that any persons examining them might draw his own conclusions; that the portion of the line on which Mr. Gooch's experiments were tried was not selected for its good condition; that it was fixed upon by Mr. Brunel himself only the night previously to the experiments, and was not that part which had been originally intended to be used; that the engine and carriages were such as could be spared from the working stock, and were not picked—in fact, that they were not the best of their class; that therefore the results were not due to peculiar circumstances, but were those of the average working of the line; but that even had the line, engine, and carriages, been selected, engineers would, from the results, have been able to make allowances for other cases, and that the value of the experiments would not have been diminished; that it was believed that in descending Wootton Basset incline by gravity, without the aid of an engine, a greater velocity had been attained than the maximum recorded in the experiments of the British association; that the tables were divided into columns, distinctly showing what resulted from experiment, and what from the use of formulæ; that it was impossible, with engines of the ordinary weight, as now constructed, with an ordinary train, to limit the experiments to such small weights as had been formerly used; that in all cases the surface of the locomotive was allowed for in calculating the frontage resistance; that it was expressly stated in the paper that the apparatus for the wind gauge was not so satisfactory as could have been desired, and therefore its results were kept separate in the tables; that Mr. Gooch had not intended to cast any reflections upon the former experimentalists, but merely to point out the errors into which he thought they had fallen, and to induce, by his experiments, others which should fix more certainly the amount of resistance; this, it was still contended, was less than had been formerly stated, and altho' other experiments would be necessary to set the question completely at rest, it was unanimously agreed that Mr. Gooch's experiments and paper were very valuable contributions, and it was hoped he would continue his observations on this most interesting subject.

The president's annual conversazione was announced to be held on Tuesday evening, the 30th of May, at the institution, and members were requested to use their influence in procuring good models and works of art for exhibition on that occasion.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 29th ult., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	7,218 03	75,410 18
By Room Run	4,112 16	43,381 19
By Hazleton	3,036 00	31,145 00
By Beaver Meadow	2,206 15	24,370 05
By Spring Mountain	2,772 04	23,679 19
By Buck Mountain	2,727 16	24,384 14
By Cranberry Mines	872 00	1,736 00
White Haven	157 12	211 00
Total	23,133 06	224,329 17

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 29th ult., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	13,869 12
" Pottsville	5,282 00
" Port Carbon	11,322 04
" Port Clinton	4,081 08
Total this week	34,555 04
Total this year	581,010 14

The amount of coal brought to market by the Schuylkill canal during the week ending the 29th ult., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	9,621 14
" Schuylkill Haven	4,342 03
" Port Clinton	441 07
Total this week	14,405 04
Total this year	152,763 00

Recapitulation.—Total Shipments this Season.

By Lehigh companies	224,329 17
By Reading railroad	581,010 14
By Schuylkill canal	152,763 00
Total	958,103 11

Materials for Bridges.

The following article on this subject may be useful and interesting to some of our readers, and we therefore give it entire from the London Railway Chronicle, of May 20th.

A communication was lately made by Mr. Buchanan to the Scottish Society of Arts, containing an interesting exposition of the strength of materials applicable to the construction of cast or wrought iron bridges. The writer presented the following notices of some interesting experiments made on the tensile strength of stone from Hailes and Craigleith quarries. The Hailes stone bore on the square inch 360 pounds, the Craigleith considerably more; and a remarkable effect was observed here after the load had hung a little; it was suggested by a member to give it a slight tap with a hammer, and on this being done, it immediately snapped asunder, showing the effect of vibration or concussion when the materials are greatly strained in aiding and completing the fracture, a circumstance which appears to throw light on what may sometimes occur by the rapid and violent actions of the trains on railways. The compressive strength of the Hailes and Craigleith stones was then shown, by experiment, to be much greater than the tensile strength; and as it required, indeed, more weight, and a more powerful apparatus than could be commanded, these experiments on different stones were deferred to another evening. The compressive strength on posts and pillars was then considered, and the remarkable effects of the length of the pillar in diminishing its strength. On this subject much light has been thrown by the experiments of Messrs. Hodgkinson and Fairbairn. Pillars or rods were tried of different lengths, from 3 in. to 5 ft., and of different diameters; rods half an inch diameter, with $3\frac{3}{4}$ in. length, bore 11 tons; but when the length was $7\frac{1}{2}$ in., it only carried 5 tons; when 15 in. long 3 tons; and at 30 in. only 13 cwt. From these experiments, a general rule may be drawn for different lengths. Taking the strength of cast iron as formerly given at 50 tons per square inch, this will hold good in pillars till the length reaches five times the diameter, and then it begins to diminish. When the length is ten times the diameter, the strength is reduced in the proportion of $1\frac{1}{4}$ to 1; with the length at fifteen times the diameter, it is reduced as 2 to 1; twenty times as 3 to one; thirty times as 4 to 1, and forty times as 6 to 1. Hence the great advantage in cast iron of using hollow pillars or tubes in place of solid metal, whereby, with the same area or section of fracture, the diameter of the pillar is increased, and with it the resistance to flexure, and an increase of strength in proportion to the length A solid pillar, for instance, 6 in. in diameter, if extended to $7\frac{1}{2}$ feet in length, would be weakened one-half, but if cast hollow, 10 in. in diameter, and three-fourths of an inch thick, giving the same weight of metal per foot in length, it might then be extended to $12\frac{1}{2}$ ft., and still possess the same strength as the other. In all these cases a remarkable circumstance was observed in regard to the mode of applying the strain. With the ends of the pillar turned flat, and a flat plate interposed at top and bottom, which is the case in supporting buildings, this was found to sustain nearly three times as much as when the pillar was rounded on the ends, so as to make the force pass directly through the axis, as occurs so frequently in machinery with the connecting rods of steam engines, and in other cases. The effect of the length of pillars in weakening the strength was illustrated by a striking experiment with a spiral wire, quite flexible, yet, when set up as a pillar, and tied in the middle laterally, with slender threads, carried a weight of 56 pounds, and would have carried much more, but the moment the threads were cut, the wire gave way by flexure, and, oversetting the balance, the weight immediately sunk. In regard to the transverse strain, he had already explained the nature of this compound action, and particularly the manner in which, under it, the beam becomes exposed at once to the effects of tension and compression, the one side being distended and the other compressed. On this most interesting and important subject he had still much to say, but would defer it to another evening, as the time was short, and he was anxious to proceed with another part of the paper which had been particularly referred to, namely, the subject of the tubular bridges. The application of malleable iron had been already used in the shape of tension rods in cast iron girders, and was applied, as we have seen, in the high level bridge at Newcastle; but the application of girders constructed of malleable iron alone is a new idea. It has been applied on railways in the case of skew bridges of wide opening and limited depth between the railway and the road; in these cases the girder consists of a rectangular hollow tube or square box, extending over the whole span, and of such depth as can be attained. These have hence received the name of tubular bridges, and have excited much attention since the grand experiment has been determined of trying these structures on such a magnificent scale as is now in progress of execution in the crossing of the Straits of Menai by the Britannia bridge, and the estuary of the Conway bridge, and which form, without doubt, the most remarkable engineering enterprises of the present day.

Railway Bars.-Shaw's Improved Mode of Manufacture.

The following is a description of his mode of *piling* the iron for railway bars:

Richard Shaw, of Gold's green, West Broomwich, Stafford, railway bar finisher, for "*Improvements in the manufacture of wrought-iron railway bars and railway chairs.*"—Granted October 21, 1847; Enrolled April 21, 1848.

The improvements described in this specification relate to the construction of railway bars and railway chairs, and also the arrangement of the machinery for their construction; and consist, First, in the mode of forming and piling the pieces of iron to form the railway bar, for preventing the lamination of the metal. This is effected by placing and piling the bars in the manner shown in the annexed diagram, fig. 1, the lower portion of the bar being piled in the usual manner with flat bars, and the upper portion piled with a broad bar bent into the form shown, the edges abutting upon the surface of the bars beneath, and the interior being filled and piled in the usual manner. When the railway bar is finished, the grain of the metal is arranged in the form represented in fig. 2, and thus no laminating edges occur on the head of the working surface. The other improvements claimed by the patentee are, Secondly, the mode of manufacturing wrought-iron railway bars with protecting rails or flanges affixed thereto, in such a manner that the heads or working surface of the railway bar stands above the support of the protecting rail or flange. Thirdly, the mode of manufactuing railway bars with hollow heads or working surface in such a manner that the cheeks of the chair pass into the hollow of the head

Fig. 1.



Fig. 2.



surfaces for the purposes of support. Fourthly, the mode of rolling railway bars with rollers placed three high; as also the mode of rolling by the same means the curved bars used in placing and piling for making his improved railway bars. Fifthly, the construction of chairs for supporting his improved form of railway bar.

Mobile and Ohio Railroad.

The people of Mobile appear to be resolved upon tapping the Ohio and Mississippi rivers at, or near their confluence.

A preliminary survey, or examination of the route, was made last year by *Lewis Troost*, Esq., a gentleman of reputation as a geologist and engineer, of which we received a report in circular form, to which, we admit, justice was not done by us—a *sin* for which we now desire *to atone*. The route was found, as per the following extracts from Mr. Troost's report, exceedingly favorable, running between, and nearly parallel to, the principal rivers—passing into, and through the southern tier of counties of the State of Mississippi, thence into Tennessee below the Great Bend Shoals—and from thence to Jackson, Madison county, and to Trenton, Gibson co., and thence by way of Moscow, to Columbus, Ballard county, Ky., 25 *miles below the mouth of the Ohio river.*

The distance from Mobile to Columbus, is put down at 466¼ miles, but they had better add the 25 miles and carry it to the *mouth of the Ohio*, opposite *Cairo*, and thus bring it in juxtaposition with the contemplated central Illinois and Galena railroad, from *Cairo* to *Chicago*, and thence to *Galena*—by which there will be, in a few years, an *unbroken road*—except to ferry across the Ohio—from Mobile to the upper Mississippi at Galena—to the lakes at *Chicago*—at *Detroit*—at *Toledo*—at *Sandusky* and at *Cleveland.*

As we said above, the people of Mobile, and along the proposed route of the road, are moving. We give the principal part of the report of Mr. Troost, as follows, *viz:*

After having examined the general features of the country, the engineer made a particular reconniossance of two routes for the railroad, both of which were found to be very favorable. The route recommended commences at the city of Mobile; proceeds up the valley of the Chickasaw bogue to the dividing ridge between the waters of the Escatawba and Tombigby rivers; thence on this ridge to the head of the Escatawba; thence to the valley of the Buckatunna river; thence up the valley of that river and its heads to the east of Marion, Lauderdale county, Miss; thence east of Narkeeta, Kemper county, Miss., to near Macon, Noxubee county; thence to the intersection of Old Town, Chowappa, Colberts and Tallabinela creeks, passing about 9½ miles west of Aberdeen; thence near Carrollsville, Itawamba county, Miss., to the head waters of Tuscumbia creek, a tributary of the Hatchie river, which flows into the Mississippi river; thence down the Tuscumbia and across it, passing to the west of Farmington, Tishamingo county, Miss., to the Tennessee river in the State of Tennessee, below the "Big Bend" shoals, from which point to the mouth of the Tennessee river there are no obstacles of consequence to navigation. From the Tennessee river the route proceeds in a direction forming a tangent to the great bend of the Tennessee river down the valley of the south fork of the Forked Deer river to the town of Jackson, Madison county, Tennessee; thence to the town of Trenton, Gibson county, Tennessee; thence crossing the Obion river, near the junction of the north and south fork of that river, to the town of Moscow, Ky.; and thence to Columbus Ky., the terminus on the Mississippi river.

The general direction of this route is very favorable, varying but little from a straight line drawn between the termini, as will be seen by tracing it on a map.

In the description by the engineer the route is divided into different divisions.

Division I—From Mobile to the Buckatunna river, soil sandy, intermixed with clay, the surface generally level and in some places undulating, no rock to encounter except a few detached fragments of recent soft sandstone, growth long leaved yellow pine, in the swamps of creeks, juniper and cypress.

Distance 82 miles.

Division II.—From thence to the Suckanotchee river, soil, sand, clay and loam mixed with lime; soils of the ridges, sandy. The surface of the valley level, the ridges east and west of the Buckatunna valley, broken; north and west of Marion, hilly and broken,

Distance 69 miles.

Division III.—From thence to the junction of Old Town, Colberts, Chowappa and Talabinella creeks—soil, clay and loam mixed with a large proportion of lime, scarcely any rock to be met with on the surface: if any is found in excavation it will easily be worked, it being a soft carbonate of lime, usually called rotten lime stone—surface generally very level—growth, post oak, white oak.

Distance 104 miles.

Division IV.—From thence to the dividing ridge of the Tombigby and Mississippi waters, surface generally level, for a few miles hilly; soil, sand, clay and loam; no rock to encounter; growth, post oak, and white oak, walnut, and on the ridges to the east and west of the route, chestnut and short leaved yellow pine.

Distance 41¾ miles.

Division V.—From thence to the terminus on the Tennessee river—soil in the valley of Tuscumbia creek, clay, sand and loam; on the table lands near the Tennessee river, sand, clay and green sand about 8 or 10 feet beneath the surface—surface generally level, slightly undulating, and for a short distance hilly.

Distance 40¾ miles.

Total distance from Mobile to the terminus on the Tennessee river 337½ miles.

Division VI—From thence to Jackson, Madison co., Tennessee—surface undulating and broken for several miles near the summit the dividing ridge between the waters of the Tennessee and the Mississippi rivers; soil, clay, sand, with beds of gravel—growth, white oak, post oak, &c.

Distance 44 miles.

Division VII.—From thence to the terminus on the Mississippi river at Columbus, Ky.,—surface level, no ridges of consequence except the Mississippi ridge at Columbus, which is overcome by easy grades in a short distance; soil, clay and loam—growth, oaks of different varieties, poplar and cypress.

Distance 85 miles.

Total distance from Mobile to Columbus, Ky., 466½ miles.

* * * * * *

Commencing at Columbus, Ky., after overcoming the Mississippi ridge near that town, which can easily be accomplished, the route is either level or descending to Jackson, Tenn., 85 miles, with the exception at the margin of several streams running westwardly into the Mississippi river. Thence to the Tennessee river 44 miles, the ridge between the waters of the Tennessee and Mississippi rivers has to be surmounted; this is affected by ascending the valley of the south fork of the Forked Deer river—thence ascending the table lands on the southwest of the Tennessee river, the route is almost level to near Tuscumbia creek—from thence it is descending a short distance to the valley of that creek; thence the route is gradually ascending on the west side of that creek at a rate not much exceeding the absolute fall of the creek to its head, where the waters of the creek are divided by a low ridge from those of the Tombigby. From the terminus on the Tennessee to this point, which brings us to the valley of the Tombigby, the distance is as previously stated, 40¾ miles. From thence to the city of Mobile 296¾ miles, the railroad can be made either level, descending or with very slight rises, except at the ridge near Old Town creek, at the ridge near Marion, Lauderdale county, Miss., at the dividing ridge between the waters of the Buckatunna and Tombigby, and at the margins of several small streams running into the Tombigby. In no case, it is considered, will a grade exceeding 40 feet in the mile be required, and the greatest length of such a grade will not be at one place more than eight or nine miles. The level of the Mississippi river at Columbus, Ky., may be estimated at 320 feet above the river at Mobile; that of the Tennessee river at the terminus of the railroad at 536 feet above the same point, allowing the absolute fall of the Tennessee and Ohio rivers to be at the rate of one foot in the mile, whilst the highest land is the table land to the southwest of the Tennessee river which, it is believed, is not more than 150 feet above the surface of that river. The widest river to be crossed on the whole route is the Obion, in Tennessee, where a bridge of 180 feet span will be necessary.

From the above facts the conclusion must be drawn that the surface of the whole route is admirably adapted for the construction of a railroad capable of transporting heavy freights at high velocities.

Two estimates of the probable cost of the railroad have been made, varying with the weight of the rail used—one with ⌶ rail weighing 70 lbs. to the yard, and the other with the U, or bridge rail, weighing 40 lbs. to the yard.

Not entering into details, the committee state that the cost of the railroad with a heavy T rail weighing 70 lbs. to the yard, from Mobile to the terminus on the Tennessee river, with depots, water stations, side tracks with a lighter rail, etc., for a single track is estimated at $4,775,743, and with the U, or bridge rail, 40 lbs. to the yard, $3,587,743. To which amount the sum of $436,300 is added for locomotives, freight, baggage and passengers cars, to place the railroad in complete and effective working condition. The estimate of the probable cost of the railroad from Mobile to Columbus, Ky., with the heavy rail, including depots, &c., as above, is $6,306,503, and with the 40 lb. rail $4,664,423, to which the sum of $547,000 for motive power is added.

The estimates of the earth work were made from a careful examination of the route, and from notes taken on the line. It is not pretended that the actual cost of this portion of the work will correspond with the estimate; on the contrary, liberal allowances were made in all cases, and it is expected that the estimates will exceed, rather than fall short, of the real cost ascertained upon the execution of the work.

From information derived on the route, the right of way will be gratuitously released —therefore, no allowances were made for this heavy item of expense on other roads. The rails were calculated at the rate of $75 per ton of 2240 lbs., delivered on the Tombigby, Tennessee and Mississippi rivers. A proposal was made by a responsible iron master of Tennessee to furnish them on the river for $60 per ton.

Such is a brief statement of the results of the reconnoissance obtained from the preliminary report of the engineer. A detailed report is in the course of preparation by him, which will be published.

The general feeling and interest manifested through the whole line of the road warrant the committee to say that it will receive large and liberal assistance. The profit of the undertaking as well as its utility is not questioned by any.

With these views, and under the authority delegated to them, the committee have prepared and forwarded a charter for privileges and right of way from the State of Tennessee, and have now in preparation charters for like privileges from this State and those of Mississippi and Kentucky—and also from the Congress of the United States.

These proceedings are respectfully submitted to the public, with the hope that they may be satisfactory. The committee earnestly call for co operation and aid to go on, persevere and accomplish this great undertaking.

JONATHAN EMANUEL, President.
SIDNEY SMITH,
S. G. FISHER,
G. N. STEWART,
C. LEBARON,
M. WARING,
} Directors.

We have devoted considerable space to this preliminary survey, for the reasons—1*st*, that it contains useful information in relation to the soil and character of the region through which it passes, and 2*nd*, because the *people* of Mobile seem in earnest in their efforts to divert a portion of the trade of the upper country from what has heretofore been deemed its legitimate channel, the *Mississippi*.

Annexed we give the result of their efforts to obtain subscriptions to the stock of the company; and also of the late election for *directors*.

The Mobile Planter says, under date of 5th June, that "the subscriptions now amount to nearly $650,000. It is desirable to swell the amount to $700,000 at least, and as the books will close to-morrow evening, we would urge upon those who are able and have not yet subscribed, to come forward at once and throw in their mite to help on the great enterprize. Considerations of interest, city pride, etc., should induce every man among us to take shares according to his means. So far, the men of small and moderate means have done nobly. They have displayed an earnestness, a confidence and enthusiasm which we should like to see imitated to a greater extent by those who are to be most benefited."

And again on the 12th it says, "the following named gentlemen are elected directors, and from their standing and intelligence, the stockholders as well as the community, have a full guaranty that the affairs of the company are in trustworthy hands:

Directors.—M. J. D. Baldwyn, S. G. Fisher, J. Emanuel, F. B. Clark, G. N. Stewart, J. S. Gliddon, J. F. McBride, J. Bloodgood, C. LeBaron, M. Waring, A. W. Gordon, Sidney Smith, D. Stodder.

Wabash and Erie Canal.

First Annual Report of the Trustees.

The trustees, Messrs. CHARLES BUTLER, of New York, and N. B. PALMER and THOMAS H. BLAKE, of Indiana, received possession of the canal and its property on the 31st day of July last, since when they have directed its management, and its extension, as will be seen by their report, which we give entire, and shall also give the report of Mr. J. L. Williams, the chief engineer—in order that we may have on record the *condition* of the work when it passed into the hands of the bondholders. This is but just to them, as we may have occasion hereafter to look after them, and like to be able to give fair play. They have undertaken a heavy responsibility, and, like most public men, may be none the more useful by being closely looked after. Yet, with such a man as Mr. Charles Butler—of the other gentlemen we know nothing except their names, and therefore cannot speak—at the head, we may be safe in saying, that to watch closely will only be to *commend*.

Report of the Trustees to the General Assembly of the State of Indiana:

The board of trustees of the Wabash and Erie canal are required, by the provisions of the 10th section of the act to provide for the funded debt of the State of Indiana, and for the completion of the Wabash and Erie canal to Evansville, and the act supplementary thereto, annually to report to the legislature the general condition of said canal and canal lands, and exhibit a full account of their receipts and disbursements.

The undersigned, having been appointed trustees of the Wabash and Erie canal, in accordance with the provisions of the said acts, two of them by the subscribers and one of them by the State, met at Fort Wayne on the 17th day of June, 1847, for the purpose of organizing the board, and proceeding to the execution of the trust confided to them.

Under the authority given them by the governor of the State for that purpose, the trustees arranged to take the possession of the canal and its appurtenances, with full authority to commence and direct all operations thereon, or in anywise connected therewith, from and after the 1st day of July, 1847. The general superintendendent of the canal, the officer charged with the superintendence and management thereof, under the authority of the State, formally delivered the same into the possession of the board, in obedience to the requisition of the governor, at the period above stated, and on the 31st day of July, 1847, the governor of the State executed and delivered to the board of trustees the deed or patent of the same, according to the requirements of the 8th section of the act approved 19th of January, 1846.

At their meeting in June, the board could only adopt such measures as were rendered necessary to give effect to their organization, and put the machinery in operation, and provide for the obtaining of such information from the various officers, in an authentic and reliable shape, as would be indispensable to enable them to act judiciously in the prosecution of their duties.

The great variety of property, and the various character and condition of it, rendered this course necessary: and besides, it was necessary that the trustee having charge of the office of the board, in the city of New York, should return to that place, previous to the 1st of July, in order to execute the directions of the board relating to the subscription of $800,000 for the completion of the canal, and the issue of the certificates to the subscribers therefor, as required by the act; while the resident and State trustees were left to carry out the orders of the board in respect to the matters then directed to be done in the State, both as related to the canal and canal lands, and the various interests connected with them.

For the transaction of the general business of the trust in the State, the board established their office in Terre Haute, on the line of the canal, and at a point convenient for the transaction of the business of the trust, both in respect to the finished and unfinished part of the canal, and equally central and convenient in reference to the canal lands; and for the transaction of the business of the trust required to be done in New York, the board established an office in that city, under the charge of the non-resident trustee.

They also established a land office at Washington, in the county of Daviess, for the sale of the lands in the Vincennes district, and united the land offices existing at Delphi and Peru, in one office, at Logansport, for the sale of all lands, and the transaction of all business relating to the lands held by the trustees east and west of Tippecanoe; and they have caused all the books

and papers relating to that business which were found in the offices at Delphi and Peru, to be removed to, and deposited in, the land office at Logansport. Each land office is placed under the charge of a clerk appointed by, and responsible to, the board of trustees, and each office is subject to the supervision and control of the board, and it will be the aim of the trustees to introduce into each a thorough system.

The board appointed Jesse L. Williams, Esq., chief engineer, who accepted the office, and immediately entered upon the discharge of his duties. William J. Ball, Esq., was at the same time appointed resident engineer; and these appointments, together with the appointment of collectors at the several offices previously established on the line of the canal, the appointment of superintendents on the unfinished part of the canal, and the requisite clerks in the offices of the board, completed the organization, so far as seemed to be then required.

The subjects claiming the immediate action of the board related,

1st. To the *finished* portion of the canal from the State line to Coal creek, a distance of 189 miles.

2d. The *unfinished* portion, extending from Coal creek to Evansville, on the Ohio river, a distance of 186 miles.

3d. The *canal lands* embraced in the trust, and lying in the northern and southern portions of the State.

The first subject which seemed to require the attention of the trustees, was

THE FINISHED PART OF THE CANAL.

In order to place this part of the canal under a more thorough and vigilant discipline, and more effectually guard against breaches, and secure a constant and continued safe navigation; the board divided it for the present into two divisions for superintendence; that is to say—that portion between the Ohio State line and Peru, including the St. Joseph's feeder and feeder dam, constituting the eastern division, and that portion between Peru and Coal creek, constituting the western division. The eastern division was placed under the charge of Stearns Fisher, Esq., and the western division under the charge of Chauncey Carter, Esq., as superintendents, and all under the general charge of the chief engineer, subject to the orders of the trustees. To obtain accurate information as to the precise condition of this portion of the canal on the 1st day of July, 1847, when it came into the hands of the trustees, the board adopted the following order:

"*Resolved*, That the chief engineer be requested, so soon as other duties will allow, to make a personal and particular examination of the finished canal, and of all the various structures thereon, such as locks, dams, culverts, bridges, etc., and that he submit to the board a detailed report descriptive of the exact condition of the canal and the structures aforesaid at the commencement of the trust, accompanied with such suggestions in regard to the repairs required, together with his views of the best system of management of the entire work, to be adopted, embracing the labors and duties of every description of persons in anywise employed on, or connected with, the same, in order to secure the most faithful administration of the same, and the largest amount of revenue.

The full and detailed report of the chief engineer, bearing date the 1st day of November, 1847, in answer to the first part of this order, descriptive of the exact condition of the canal and its various structures at the date mentioned, is subjoined hereto, and the attention of the general assembly is particularly invited to it. It will be perceived that the structures generally on the line of the canal require extensive repairs and renewals during the ensuing five years, involving a very large annual outlay over and above the ordinary repairs.

The board have already expended a considerable sum in the repair and renewal of structures, and have adopted measures to provide for the repair and renewal of structures which require to be so repaired and renewed within the ensuing year, (1848,) according to the report of the chief engineer, in order to maintain the navigation of the canal.

It will be perceived by the report, that the navigation of the canal between Covington and Coal creek, was not perfected until the latter part of the month of October last, and not in time to be of much use for the business of this year. The difficulties in the way of an earlier use of this lower part of the canal, are stated in the report of the chief engineer. The deficient supply of water on this division, between Lafayette and Coal creek, has been a source of the greatest embarrassment and anxiety during the period that the same has been under the care of the trustees. The facts disclosed in the report of the chief engineer, confirmed, as they have been, by the experience and observation of the past season, and the numerous complaints which have reached the board from those connected with transportation, have impressed the trustees with the necessity of adopting speedily the only practicable measures recommended to their consideration for the purpose of obviating the difficulty, and ensuring a good navigation during the next season; and notwithstanding the extra outlay required for that purpose, they have accordingly

"*Ordered*, That the plan recommended by the chief engineer in his report on the state of the canal, for increasing the supply of water on the lower division of the canal between Lafayette and Coal creek, by raising the Wabash and Deer creek dams, and by widening the canal at the Wea Bluffs, be adopted; and the chief engineer is hereby authorized to execute the said measures during the ensuing season."

In the 10th section of the act, approved 19th January, 1846, it is made the duty of the trustees to "do all the acts needful and proper in and about the sale of the said canal lands, and the completion of said canal to Evansville, with *necessary* side cuts and feeders, particularly the side cuts and locks to the Wabash river on sections 136 or 137, between Coal creek and Terre Haute, and on sections 33 or 34, and 46, *as heretofore surveyed* between Coal creek and Lafayette, heretofore contemplated." And by the 29th section of the supplementary act, approved 27th January, 1847, it is enacted that "the said trustees shall, and it is hereby made their duty to, construct and complete all the feeders, feeder dams, side cuts, and reservoirs, contemplated in this act and the act to which this is a supplement, contemporaneously with the construction and completion of the main canal: *Provided, however*, That where said canal has already been so constructed beyond any point where such feeders or side cuts are located, and intended to be constructed, as specified in the act to which this is a supplement, it shall be the duty of said trustees to construct and complete all such feeders and side cuts within eighteen months from and after the acceptance of this act by our bondholders: *And be it further provided*, That said side cuts shall be constructed of the same capacity with the main canal."

The proposed side cuts opposite to Independence and Williamsport, in the county of Warren, come within the proviso to the section above quoted, the canal having been completed to a point beyond them; and the subject of constructing them within the time limited, is one upon which the trustees have bestowed great attention, and it has been the occasion of great embarrassment. To construct these side cuts will require the construction of either six or eight locks, and the supply of water must be drawn from a division of the canal which is already deficient in water. Entertaining serious apprehensions that the immediate construction of these side cuts and the locks connected therewith, might, on account of the use and unavoidable waste of water, seriously impair, and probably destroy the usefulness of the main line of the canal, and regarding, as they do, the obligation resting upon them to carry out in its full intent the law creating the trust, and at the same time considering the paramount importance to the great objects of the trust, as well as to the people of the State, of securing and maintaining a full and perfect navigation of the main line of the canal; the trustees are constrained, in view of all the facts, and under a deep sense of their duty, to defer the construction of those side cuts and locks, until the measures adopted by them to secure a supply of water for the navigation of the main line shall have been fully executed, and until it shall appear that the side cuts and locks may be supplied without detriment o the navigation of the main line; and in order to elicit the fullest information on the subject, they have accordingly passed an order, "that the chief engineer direct his attention particularly to this question of the supply of water, and the probable effect of the side cuts and the locks connected therewith, upon the navigation of the main line; and that he report to the board at their next meeting, or so soon as all the facts having a bearing upon this subject can be ascertained."

In regard to the water power on the line of the canal, the trustees have taken measures to collect the rents due on existing leases, in

all cases. The trustees have received applications from several citizens, residing at different places on the line of the canal, for the lease of water power; and with the view of meeting such applications, in all cases where they can do so with propriety, they have taken measures to ascertain, by a critical examination, the extent to which water power may with propriety be let on the entire line of the canal, without interfering with the safe and permanent navigation of the canal, and also the condition of the water power now under lease, and the terms and objects of the leases respectively.

The trustees conceive it to be their duty to encourage the use of all the water power which may be created on the canal, and to give to the public the full benefit of the same where it can be done without any detriment to the navigation of the canal; and with this view they have authorized the water power at Logansport to be advertised for sale at an early day, to the best bidder, making it one of the conditions of sale that it shall be improved.

The information which they will obtain on the subject by the examination which they have instituted, will enable them, it is hoped, hereafter to offer additional powers, and thus contribute to the improvement of the country, and add to the revenues of the canal; at the same time, it is quite probable, that in some cases of existing leases, restrictions and abatements may be required to be made, especially where the use of the water interferes with the navigation of the canal, the security of which object, is paramount to all others.

By the 10th section of the act, approved 19th January, 1846, the trustees "shall have power from time to time to make, ordain, and establish, such reasonable rules, by-laws, and regulations, in relation to the collection of tolls, transportation on said canal, conduct of boats and rafts, and the general police of said canal, as are usual, or may be found necessary to enforce the observance of the same."

The trustees have carefully examined this important branch of their duties, and have adopted a body of rules and regulations on the subject, embodying those which have been previously established by the State, with such additional rules as the experience of other States, particularly Ohio and New York, had proved to be useful and necessary.

No alteration has been made by the trustees in the tariff of tolls existing at the time the canal came into their hands; but this subject will receive their most careful examination and deliberation, and such a tariff will be from time to time established, as shall, in their judgment, best accommodate the trade of the country, promote the business, and increase the revenues of the canal.

Owing to the continuous navigation between the Wabash and Erie canal and the Ohio canals connecting with it, the tolls to be charged on property going to, or coming from, the lake, or Cincinnati, should be a subject of arrangement with the Ohio board of public works; and it is believed that a good understanding on this subject between the two boards will promote the interest of the respective canals, and measures have been adopted with that view.

The tolls of the canal for the year ending on the 1st day of November, 1847, amount to..	$125,982 71
The tolls of the canal for the previous year, ending Nov. 1st, 1846, amount to	105,234 04
Showing a gain during the last year, of.	20,748 67

The interruption to the navigation in the spring, occasioned by the injury to the canal by the great flood last winter, and the failure of the wheat crop to a considerable extent in the region of country bordering on the canal, for the present year, it is believed, have lessened the tolls of the canal.

The amount received by the trustees from the canal, from the 31st day of July, 1847, up to the 1st day of* December, 1847, is.....	$77,742 05
And they have paid out during the same period, on account of *ordinary repairs* on the same, up to the 1st day of Dec., 1847, and for the expense of *superintendence*, and the *expenses* of *collection*, the sum of.....	12,915 80
Leaving a net balance of.....	64,826 25

Tables are also subjoined exhibiting the receipts at the several collectors' offices in each month of navigation, and also the quantities of the various kinds of property transported on the canal during the past season.

The trustees refer to the table accompanying the letter of J. L. Williams, Esq., to the president of the board, exhibiting the shipments from various points south, by the Wabash river, during the season of 1847.

A comparison of this table with the statement of shipments of produce from the same points north, by the canal, will show the influence of the extension of the canal navigation, in changing the direction of trade.

It cannot be doubted that the increasing facilities for transporting the products of the west to tide water through the Erie canal, and the liberal policy adopted by the canal board of the State of New York, in reducing the charges upon western produce, will tend still farther to draw the trade of the Wabash valley through this direct channel to the Atlantic sea board.

The trustees regret that they are not able at this time to make these tables as full as desirable, and as would be satisfactory to themselves, in order to exhibit the actual trade and business of the canal.

The canal having been under their care for a portion of the year only, the statistics within their reach at this time are necessarily limited.

They will be able hereafter to present a more full and satisfactory view of the business, showing its annual increase.

II.—THE UNFINISHED PART OF THE CANAL.

It is made the duty of the trustees to adopt and put in execution such plans and measures as they shall deem most expedient for the prosecution and completion of the canal to Evansville, within the period prescribed by the act.

The canal being finished to Coal creek, or nearly so, the board adopted measures to commence the work at that point at the earliest day practicable; and they accordingly ordered that the division of work from that point to Terre Haute, being the first division of the unfinished canal, 36 miles in length, and embracing 70 sections, be placed under contract as early as practicable, and the same was advertised to be let on the 5th day of August, 1847.

This division having been formerly contracted to Hugh Stewart and his associates for construction, under the State authorities, he, on behalf of himself, and as assignee and survivor of his associates in the former contract, claimed to be entitled to finish the work under that contract; but expressed his willingness to take a contract for a portion only of the work, upon terms satisfactory to the trustees. With a view to shut out all pretext for litigation, and at the same time being determined not to submit to any sacrifice, the trustees contracted with Mr. Stewart for the construction of 30 sections, at prices ranging as low as the average of the subsequent lettings, taking from him a release on behalf of himself, and as assignee, etc., of all right and claim under the former contract, and an obligation of indemnity against any and all claims of his associates in that behalf.

For the remaining sections the trustees received bids on the 5th of August, and all of them were awarded with the exception of one section and one guard bank at Coal creek, on terms satisfactory to the trustees, and generally at an average of five per cent. within the estimates.

The remaining section, together with the guard banks at Coal creek, have been since let, and the whole is now under contract, and the work under a fair state of progress.

The contracts require the work to be finished by the 1st day of November, 1848.

The state and condition of this part of the work will be found fully exhibited in the report of William J. Ball, Esq., the resident engineer, (who has charge of the construction,) herewith submitted.

The trustees were advised that unless this division of the canal was placed under contract at the earliest day practicable in the summer, and in time to enable the contractors to get in the foundations of the dams, and of the aqueducts across Sugar and Raccoon creeks previous to the winter floods, it might make an important difference as to the time of completion of this part of the canal. The surveys and locations previously made by the State being deemed sufficient, the order was accordingly made, and the work let as above; and the trustees still hope that it will be completed according to the contracts, and the navigation to Terre Haute perfected by the spring of 1849, notwithstanding the obstructions which have been caused in the progress of the work, by the unusual floods which have occurred in the months of October and November.

In regard to that portion of the line extending from Terre Haute to Evansville, the trustees, at their meeting in June, adopted an order requiring the chief engineer to make an examination of the entire line, and report

* There may be an error in this month, as there was a defect in the copy.—[Ed. R. R. J.]

the result to the board, preparatory to future operations thereon.

The report of the chief engineer under this order, exhibiting the condition of those portions of the work which had been heretofore partially or fully completed by the State, and also, other interesting details, accompanied with the outline of a plan of progressing with the work, covering the entire line, was submitted to the board on the 13th of November, 1847, and is herewith transmitted.

It will be perceived that the Eel river feeder dam was seriously injured by the flood of last winter, and it is estimated that the cost of repairing it will amount to nearly $15,000. The trustees are assured that a few hours' work, and a few dollars of expense, at the proper time, would have prevented this great damage; but there seems to have been no one charged with the duty of superintending it.

The plan of repairing this dam, recommended by the chief engineers, and approved by the trustees, has the merit of diminishing the overflow, and will relieve the apprehensions indulged on this account in the region of country immediately above it.

The plan of progressing with the construction of the line from Terre Haute to Evansville, indicated in the report of the chief engineer, is briefly as follows:

The length of the line from Terre Haute to Evansville is 150 miles; and for the purposes of letting, the same is arranged in divisions, to be placed under contract as follows:

1st. On the 24th of May, 1848, the division from Terre Haute to Point Commerce, on White river, 40½ miles; about the same time, also, the repairs on the southern end of the line, from Pigeon dam to Evansville, 19 miles, so as to render that portion navigable.

2d. In November, 1848, the division from Point Commerce to the Newberry feeder, (including the dam across White river,) 17 miles; together with a portion of the rock excavation at the Patoka summit, in Pike county.

3d. In May, 1849, the division from the Newberry feeder dam to Maysville, 23½ miles; and at the same time the masonry of the aqueduct at the east fork of White river.

4th. In October, 1849, the residue of the line from Maysville to Pigeon dam, 50 miles.

The entire cost of completing the several divisions from Terre Haute to Evansville, as above, was estimated by Mr. Fountleroy in 1845, at	$1,560,371
The estimated cost of the line now under contract from Coal creek to Terre Haute, including allowance for superintendence, etc., is about	350,000
Making an aggregate cost of	1,910,371

required to finish *the main line* of the canal to Evansville during the ensuing four years.

The trustees, in deliberating upon the foregoing plan of progressing with the work, carefully considered the means of the board, as provided in the acts of the general assembly, which are or may be subject to their control during the ensuing four years, and regarding the contingent character of some of the sources of means thus provided, and in view of the imperative obligation resting upon the trustees to adopt and put in execution such measures, as in their judgment would enable them to meet the just expectations of the State and the bondholders, unanimously adopted the following:

"That the plan of progressing with the canal between Terre Haute and Evansville, submitted by the chief engineer in his said report, and the series of lettings of the several divisions of *the entire work* at the times mentioned, are hereby approved and adopted as the settled policy of the board, subject only to such change or modification in respect to the time of letting in each case, (after the letting to take place in May next,) as the circumstances of the country, and the amount of labor at command, and other causes, may require, therefore, it is now

"*Ordered*, That the portion of the canal from Terre Haute to Point Commerce, on White river, be placed under contract at Terre Haute, on the 24th of May next, and that at least sixty days previous notice thereof shall be given in the public newspapers.

"*Ordered*, That the repairs on the finished line of the canal from Pigeon dam to Evansville, so as to render the same navigable, be placed under contract in the month of May next; of which such reasonable notice shall be given by publication in the newspapers at Evansville, as the resident and State trustees shall hereafter prescribe."

Preparatory to the commencement of the work on this line, the trustees have taken steps to obtain releases from the individual owners, of the right of way to the land required for the use of the canal in the several counties through which it passes; and in this they have been assisted by Samuel Hall, Esq., of Gibson, R. A. Clements, Esq., of Daviess, N. R. Wild, Esq, of Green, and R. Harrell, Esq., of Pike county; and the trustees are gratified in being able to state that these gentlemen, in the prosecution of the duty confided to them, have found a liberal disposition existing among the people on the subject, and that with scarcely an exception, they have thus far, when applied to, cheerfully executed the necessary releases. There is appended hereto the circular of instructions issued from this office on the occasion.

The advantages of the plan of operations which the trustees have adopted are obvious: commencing at the point where the present navigation terminates, the work will be extended towards the Ohio river, and as fast as extended, will be brought into use, and while the benefits of navigation will be secured to the country through which it passes, it will at the same time become a source of income to the trust, by adding to the business of the entire line, and thus be the means of aiding in the prosecution of the work.

It will be seen, that by this plan it is expected the canal will be finished by the fall of 1850 to Maysville, situate in the very heart of the Vincennes land district, and will, it is believed, cause the more rapid settlement of that district of country, and give enhanced value to the lands belonging to the trust.

Great difficulty has been experienced this fall in obtaining the needful supply of labor on the canal, and the board have deemed it proper to take steps to obviate, as far as they can, by calling the attention of emigrants, laborers, and contractors, to the extended line of canal to be put under construction by the board, to the large amount of land on hand for sale, and the facilities and advantages afforded by that portion of the State through which the canal runs, and in which the lands lie; and they hope that these measures will conduce not only to bring into the country the requisite amount of labor to enable them to execute the work according to their plan, but also to the settlement of the country.

To be continued.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

ENGINEER'S OFFICE,
Richmond and Danville Railroad Co.

SEALED PROPOSALS WILL BE RECEIVED at this office until 12 M. on Tuesday, the 11th of July ensuing, for the Grading, Bridging and Masonry of the Richmond and Danville Railroad, from the south abutment of the proposed bridge, across the James River, to the summit of the Coal Pits, about 12 miles.

The proposals will be submitted to the Board of Directors, and opened on Wednesday, the 12th of July, and no bid will be considered unless the person making the same, or his accredited agent, is present and ready to close a contract as soon as it shall be awarded to him.

The contractor will be required to give satisfactory security to the Company for the faithful execution of the contract.

For further information, and for specifications, plans, and profile of the proposed work, apply to the Engineer, at the office of the Company.

It is required by the Board of Directors that the names of the bidders be endorsed on the back of the proposals, which should have the further endorsement "Proposals for contract," and addressed to the subscriber.

ANDREW TALCOTT, Chief Engineer.
June 15, 1847. 2t27

HUDSON RIVER RAILROAD COMPANY. Notice for Proposals for Cast Iron Chairs.—Sealed proposals will be received by the Directors of the Hudson River Railroad Company, at their office, No. 54 Wall street, until the 15th day of July next, for one million pounds (equal to 500 tons) of Cast Iron Chairs. The proposition to specify the price per pound, or per ton, delivered on the line of said Railroad, at such wharf or wharves in common use as may be designated by the Chief Engineer in the employ of the said Company.

The Chairs to be cast from re-melted iron of a good quality, that will make smooth and tough castings. A sample of the castings may be seen at the office of the company in New York, and at the engineer's office in Poughkeepsie. It will be required that the Chairs, in all particulars, as to dimensions and quality of iron, be according to the pattern furnished, so as not to require chipping to receive the rails, nor allow the rails to set too loosly in the chair.

The Chairs to be delivered, one-third in the month of November next, one-third on the opening of the navigation of the Hudson next spring, and the balance by the 15th of April next.

The party to any proposition that may be accepted, will be required to enter into contract immediately after the acceptance of the same. The Directors reserve to themselves the right to accept or reject proposals that may be offered, as they may consider the interest of the company to require.

A. C. FLAGG, *President.*
JOHN B. JERVIS, *Chief Engineer.*
New York, June 14th, 1848. 4t26

FULLER'S PATENT INDIA RUBBER Railroad Springs.—These Springs are composed of alternate layers of India Rubber rings and Metallic plates, and are superior to those made of steel, for the following among other reasons:—

First—On account of their extreme simplicity, and the impossibility of their being broken or damaged.

Second—Their lightness: the elastic malerial not being more than one-tenth of the weight of steel springs of similar strength, thereby saving many tons of dead weight in a long passenger train—a matter of great economy in working railroads.

Third—The facility with which the power of these springs may be regulated: first, by increasing or diminishing the diameter of the ring; and next, by increasing or diminishing the number of the rings in each Spring.

Fourth—It is a particularly good material for Buffers; because, when first pressed, they are much more elastic, and more easily acted on than steel; whilst the power of resistance, after yielding to a certain extent, increases in such a ratio as to prevent the possibility of the Buffer-head being brought to a *dead hard stop*. And from this arrangement, the most valuable results may be anticipated in cases of collision.

Fifth—The easy motion given to the cars and engines which are fitted with these Springs—there being none of that jarring or vibratory motion so apparent with steel springs; and consequently there is a great saving of wear and tear, both to the cars and the permanent way. The recoil of a steel spring is frequently more harsh than the actual giving of the spring in the first instance, and this recoil is altogether obviated by India Rubber Springs.

Sixth—The cost of India Rubber Springs will be found less than those of steel, and they are calculated to last very much longer.

These Springs and Buffers have now been tried for upwards of three years, under very able superintendence, and with the most decided success. They are in general use upon the principal lines in England and Scotland, (among which may be mentioned the Great Western, the Midland, the London and North-Western, the Eastern Counties, London and Brighton, London and Dover, North Staffordshire, and Caledonian Companies.) They are also used in other parts of Europe. The patentee, therefore, feels justified in stating that he is prepared to furnish not only a more efficient Spring and Buffer than any hitherto in use, but a more durable one, and upon terms which will effect a considerable saving to Companies.

The most satisfactory trials have been made as to the non-liability of this material being affected by extremes of cold or heat; nor will any amount of pressure permanently alter its shape or structure. The patentee therefore submits the invention to the public, with the confident anticipation of its successful and general adoption.

The patent for this invention was granted to Mr. W. C. FULLER, in October, 1846, and the same gentleman has patents for it in England and other countries in Europe. The sole Agent in the United States is Mr. G. M. KNEVITT, who will show models and drawings of the various modes of application to *passenger cars, engines, tenders, wagons, etc.*, and give further particulars as to its satisfactory working; and is prepared to supply the Springs in any quantity, or to grant licenses for manufacturing them.

Principal Office, 78 Broad Street, New York.

And a Branch Office at Messrs JAMES LEE & CO.'S, 18 India Wharf, Boston.

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T.
Kensington, Philadelphia Co., March 12, 1848. 11tf

HARTFORD AND PROVIDENCE RAILROAD.—Notice to Contractors.—Sealed proposals will be received by the Directors of the *Hartford and Providence Railroad Company*, at their office in the city of Hartford, near the Postoffice, until the 1st day of July, for the Grading, Piling, Masonry and Bridging of that portion of the road extending from the east bank of Connecticut River to Willimantic, about 29 miles.

The Maps, Profiles, Plans and Specifications will be ready for examination on and after the 26th day of June.

The line will be divided into convenient sections, and proposals may be made for one or all the sections, or for the whole work except the superstructure.

EDWARD H. BROADHEAD.
Chief Engineer H. & P. R. R.
Engineer's Office, Hartford, May 27, 1848. t 24

RAILROAD IRON—500 TONS HEAVY Pattern—to arrive. For sale by

DAVIS BROOKS & CO.
June 3. tf 68 Broad street, New York.

PENNSYLVANIA RAILROAD COMPANY. Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law.

GEORGE V. BACON,
May 13—8t Treasurer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accuracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," **L** Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtis & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

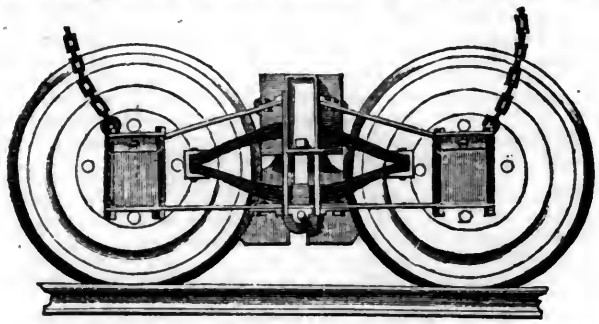
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.
May 6, 1848.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIber having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power.

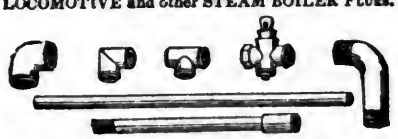
1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 ly

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paperea barrels, by JOHN W. LAWRENCE, 142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

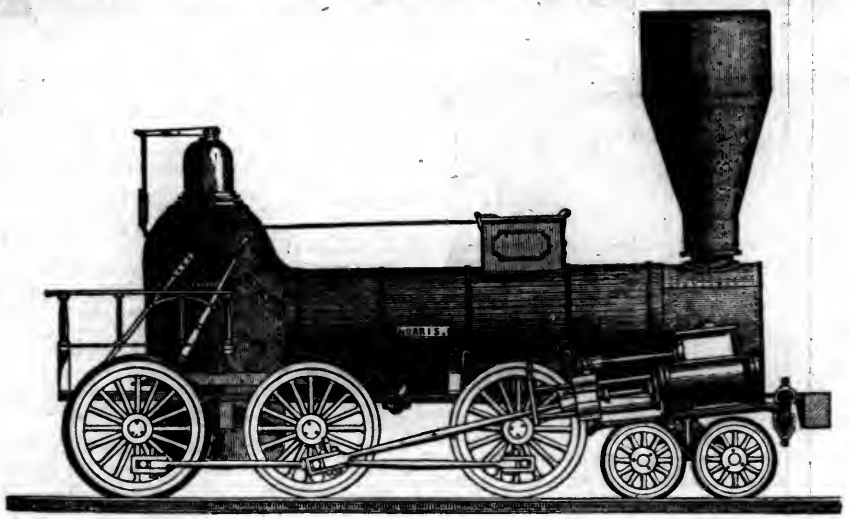
General Agent,

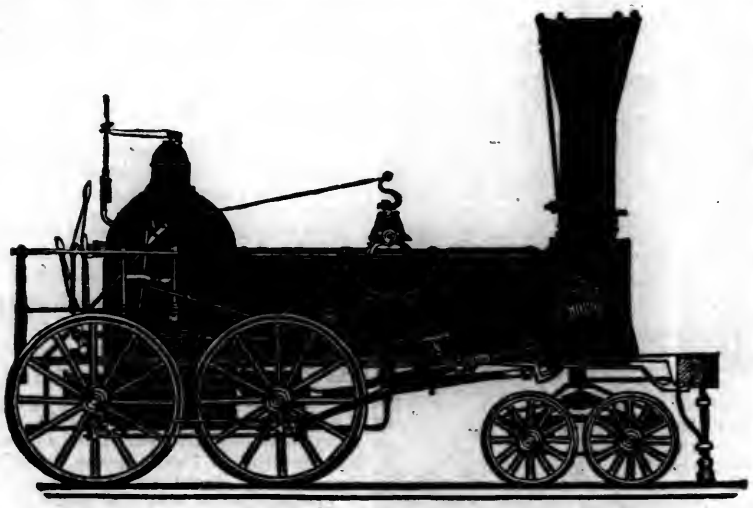
Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25,1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

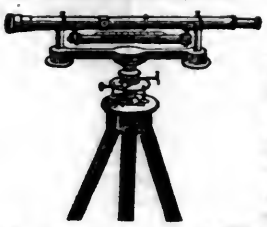
CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent*.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y•21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

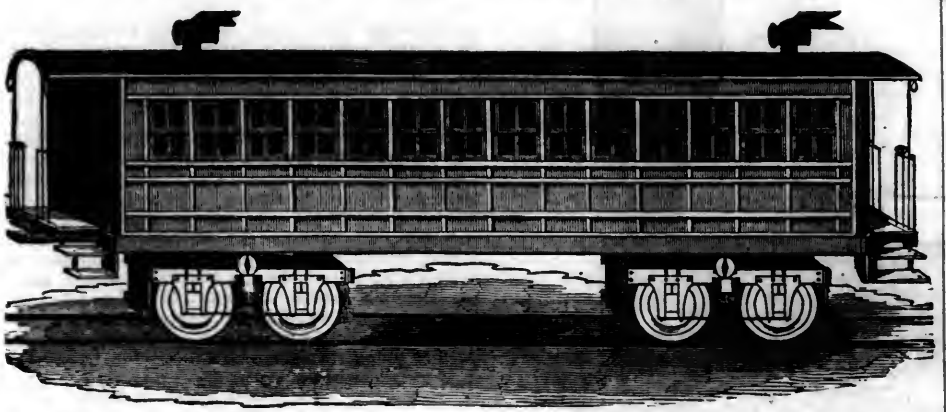
Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufeturing so as to keep pace with the daily increasing demand.

ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will precede each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

Summer Arrangement.

Commencing April 17, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 5½ p.m.
For Reading 7, 8½ & 11½ a.m., 2½, 4½, 5½, 6½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 6½, 8½ and 11 a.m., 3 and 6½ p.m.
From Reading at 6, 7½, 9½, 11½ a.m., 1½, 4, 7½, 9½ p.m

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9 a.m., 12½ 2½, 5½, 7, 10 p.m.
Leave Medford at 6½, 7½, 10½, a.m., 2, 4, 6, 9½ p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, April 15, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelp'ia.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, May 1st, 1848.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 10 a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Allyn's Point for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13; to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

Fare—From Cincinnati to	Lebanon		$1 00
"	"	" Xenia	1 50
"	"	" Springfield	2 00
"	"	" Columbus	4 00
"	"	" Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.


This Road in connection with

the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.


This Road is open for the transportation of Passengers and

Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves....Albany....	7½ A.M..	2 P.M..	7 P.M.
Pass..... Utica.....	1 P.M..	7½ P.M..	1½ A.M.
Pass..... Syracuse...	4½ P.M.	11 P.M..	5 A.M.
Pass..... Auburn....	6½ P.M..	1 A.M..	7 A.M.
Pass..... Rochester.	12½ M.N..	7 A.M..	1 P.M.
Arrives at. Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.	1st train.	2d train.	3d train.
Leaves.... Buffalo....	7½ A.M..	2 P.M..	7 P.M.
Pass..... Rochester.	12½ M....	7 P.M.	12 M.N.
Pass..... Auburn....	6½ P.M..	1 A.M..	6 A.M.
Pass..... Syracuse...	8½ P.M..	3½ A.M..	8 A.M.
Pass..... Utica.....	12 M.N..	7 A.M.	11½ A.M.
Arrives at. Albany....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, JR.,
Secretary of the Convention.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

LAP-WELDED WROUGHT IRON TUBES

for Tubular Boilers, from 1½ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, July 15, 1848.

To Contractors.

The attention of contractors is called to the following advertisement of the James River and Kanawha company. Here is a very heavy job of stone work within a short distance.

TO CONTRACTORS.

PROPOSALS will be received at the Office of the James River and Kanawha Company, in Richmond, for the connection between the Basin at Richmond and the Richmond Dock. This work will consist of three locks of 18 feet lift, and one of 15 feet lift; intermediate canals for an aggregate distance of about half a mile, with such culverts, walls, wastes, street bridges, etc., as shall be necessary; and a stone dam across James River on the Falls at Richmond.

This work will be paid for in bonds of the company (to be issued under authority of an act of the legislature) running 25 years, bearing six per cent. interest, payable semi-annually, and secured by the net revenue of the Richmond Dock.

Besides the usual reservation of 20 per cent. on the monthly estimates, the contractor or contractors will be required to give ample security, satisfactory to the Board of Directors, for the completion of the work at the times and in the manner specified in the contracts.

Plans of the above works will be exhibited, and specifications thereof delivered to contractors, at the Company's office in Richmond.

WALTER GWINN, Chief Eng.
of the J. R. & K. Co.

Richmond, July 11, 1848. 3t29

Naugatuc, (Conn.) Railroad.

All this road, except five miles, has been let, and is under rapid progress or construction, from 300 to 500 men being constantly employed on the line.

Influence of Light in Dark Places upon the Camden and Amboy Railroad Co.

It has been the opinion of many people, both *in*, and out of, the State of New Jersey, that this company is so powerful that any attack upon it would be of no avail—and therefore very little effort has been made to remedy the evil of which so many have complained—but, if we may judge of the future by the past—and it is a pretty safe guide, when proper allowance is made for the accelerated speed of the age—all that is demanded by the people will, at no distant day, be conceded by the company, if the merchants and business men of the two cities—New York and Philadelphia—will only put their shoulders to the wheel.

Heretofore, *in our own experience*, a passenger going hence to New York, who paid passage to New Brunswick—expecting to stop there—and then offered to pay 75 cents, *New Brunswick fare*, to New York, was *ejected* from the cars at Rahway, because he would not pay $1 25—while his friend, who got into the same car at New Brunswick, was only charged *seventy-five cents* for precisely the same accommodation; but *now*, we have been informed, and have *tested* its truth in *part*—a passenger who pays from Philadelphia to Trenton, 75 cents, and thence to New Brunswick $1 25, may go through on this line for $2 75—while the passenger who pays *through* from either end, pays *four* dollars. Is this right?—Is it just?—Is it in accordance with the *law*, for which "D."—an able writer in the "City Item," in favor of the company—so strenuously contends?—Not exactly; but we suppose it is deemed more prudent to ease off a little during a severe storm, and—if the passenger, who has discovered the *by-paths* of this matter, chooses to avail of his knowledge, and pay *three times*, instead of once, and thus save 75 cents, and possibly $1 25, out of $4, they let him pass on, and *say nothing about it*, if *he* wont. This we have *witnessed*, and give the conductor credit for his gentlemanly deportment, and affable manners under the circumstances.

A correspondent of ours enumerates many other evidences of improvement in their habits, and in a manner so much more concise than we could do it, that we give it in his own language. He says, in speaking of the common opinion of the *power* and *strength* of the company, that, "Not six months since, the only feeling, in regard to the company, that existed in the State of New Jersey, was that of regret that they had not imposed a tax of 20 cents, instead of 10, and of fear that the company would, in some manner or other, outwit the State, and prevent it from becoming proprietor of the road. Now, there is a strong disposition to put an end to its monopoly—as injurious, in the highest degree, to the State and the people, and it wants but a continuance of effort to accomplish it. The arrangements of the river boats have been changed back to what they were before its managers undertook to build up Taconey at the expense of all other places on the river. The postmaster general has been enabled to get them to sign a contract, and to have the mail leave at six in the morning, instead of nine, which they had always before refused. The one o'clock train, carrying passengers at $3 has been put on, and it is found so convenient that it is rapidly using up the $4 dollar lines, and will eventually break them down to $3. The evening train does not carry more than 40 per cent. of what it has been accustomed to do—and thus the chance of overcharging by aid of the Trenton railroad, is greatly reduced. The canal tariff, published in April, and exposed in one of the letters of "A Citizen of Burlington," has been repealed, and a new one has been issued. Such are the results of the first attempt ever made to break them down—and they show what might be done if the merchants would make the proper exertion." * *

"I am informed that a total change has taken place in their course of action, and that the conductors are instructed to try to extort full price, and if they cannot get it, to take way price. They have taken a hint from Shakespeare. Their men are—like Dogberry—to bid the passengers stand, but if they will not stand, or pay, they are to let them pass."

By referring to the communication of "*A Citizen of Burlington*," published in our last, it will be seen that there has been pursued a system of charging for freight, not only illegal—as decided by the Supreme Court of New Jersey—but also extortionate, upon the business community. Compare the rates charged by them, for 88, or even 90 miles—where there is, and *can be*, no competition, under the present laws of the State—with the rates of freight between New York and Boston, 220 miles, where there is a free competition. A better test, of the injustice of the New Jersey laws, and practices of this company, need not be had than is here given. Cheap

rates and high speed are sure to follow where competition is fostered—but give to *any* man, or company, exclusive privileges, and they are *sure* to forget right, and use might; and therefore we insist upon the economy to the people of New Jersey, of abolishing this monopoly, even if they should have to pay to the company, instead of receiving from it, the paltry sum—*for a state*—of $81,000 a year, during the period of the charter,* as originally granted, to this company.

Boston and Maine Railroad,

Opening of New Line, and Reduced Rates of Fare and Freight.

The following letter, dated, Boston, July 8, 1848, from an authentic source, gives us two very interesting facts, viz: an *improved line of road*, and *reduced rates* of *fare* and *freight*. The writer says that "On the 1st inst., in order to accommodate the new town (or city, as it is generally called,) of Lawrence, the Boston and Maine railroad company opened nine miles of new railroad, leaving the old line in North Andover, thence running westerly of the old road, and through Lawrence, to Wilmington, where we come into the old road again. Our distance is increased by this change of location, by about a mile, but we make so much reduction of grades on it, having none over 26·4 feet per mile, while on the old road we have several over 40 feet, that we shall be able to run over it in as short a time. The old road is to be discontinued. This, with the 2¼ miles discontinued two or three years since, will make over 10 miles of road originally built, which we have thrown aside.

"A branch is now being bullt from Lawrence to the line of the State of New Hampshire, there to connect with a road to Manchester.

"A railroad was opened on the same day between Lowell and Lawrence. * * *

"On the 1st inst., we reduced our fare to an uniform rate of 2¼ cents per mile. We also at the same time have reduced our freight tariff over 20 per cent."

Thus we are profiting by experience—not only in the lines of railroad, which are being materially improved in their grades and curves, but also in their management and policy.

Here is a road extending from Boston—to South Berwick 82 miles, and thence to Portland, in common with the Eastern railroad—of 110 miles. Of this about 80 miles run parallel to, and not to exceed an average of 15 miles distant from, the Eastern railroad, and *both* of them have a powerful competitor in a line of steamboats outside; yet we find this road reducing its rates of fare for passengers from 2·72 cents per mile, to an uniform rate of 2¼ cents; and its tariff of freight 20 per cent. on $2 20, for heavy articles, such as coal, iron, lumber, sugar, etc. —and on $3 60 for light and bulky articles, such as drygoods, etc., for the distance of 82 miles. A reduction of 20 per ct. upon $2 90—or 3·5 cts. per ton per mile—which is the *medium* between $2 20 and $3 60, the old rates—is 58 cents, giving the present medium rates $2 32 cents per ton for 82 miles, or at the rate of 2·83 cents per ton per mile. And still the *stock* of this company is quoted at 10 per cent. *above* par. If the question is asked "*how* can they make good dividends upon such rates, notwithstanding the competition with which they have to contend?" it may be simply said in reply, that they *adopt measures to develope, and accommodate*, the business of the region through which they pass. This is the whole secret—and if our neighbors in New Jersey were to adopt a similar course of measures to accommodate their own people, and those who desire to use their railroads, they might make much larger returns to their shareholders, and give far more satisfaction to the people generally.

The advertisement of this company on the 14th page, shows that they start *eight* trains each day from the depot in Boston, for different places on the line, two of which go through; and the uniform rates of fare for through and way passengers is only 2¼ cts., of course people will travel, and business will increase; and it is to be hoped that the managers of other roads equally, or more, favorably situated, will investigate the matter, and see if like results will not follow a similar course.

* Section 22 of the charter says, "That, at the expiration of *thirty* years, from the *completion* of the said roads, the legislature of this State may cause an appraisement of the said roads and the appendages thereof, to be made by six persons, three of whom shall be appointed by the Chief Justice of the State for the time being, and the other three by the company, who, or a majority of them, shall report the value thereof to the legislature, within one year from the time of their appointment; or, if they cannot agree, they shall choose a seventh, who with the aforesaid six, shall report as aforesaid," etc., etc.—After the appraisement and reports are made, "the State shall have the privilege for three years, of taking said roads, at the appraisement," etc.

Can any one tell us *when it was "completed?"* It was first opened, we believe, in 1834, but we cannot fix the date of completion—but say 1835—and then the charter has seventeen years yet to run.

The Locomotive Susquehannah.

We alluded, in a recent number of the Journal, to a *ten wheel locomotive*, built by Messrs. Rogers, Ketchum & Grosvenor, for the New York and Erie railroad—and we have now merely to say that while in New York last week, an opportunity offered for witnessing its performance, at Piermont, with a load of 150 *tons net* of railroad iron and brick, upon a grade of 63 feet to the mile. This engine was built after a plan and drawings, of the principal machinist of the company; and its performance shows that his opinions and plans, though not fully approved by the builders, are entitled to high respect and consideration—and that the engineers and superintendent of the company were well satisfied with the plan.

We hope to be able to publish, in our next number, a full and accurate statement of its dimensions and performance. We rely upon the superintendent, H. C. Seymour, Esq., for this report, and we are quite sure he will not disappoint us.

The Proposed Railroad to the Mahanoy Coal Field.

We are informed, says the Miner's, Pottsville, Journal, of 24th June, that Mr. S. W. Roberts, civil engineer, has just traced his first experimental line for a railroad, from Coal Castle on the Mine Hill Railroad to the outlet of the Mahanoy coal field, at the Ashland gap. This line crosses the Broad mountain at the gap of Rattling run, without any inclined planes, and with a maximum grade of 84 feet per mile, being that used on several of the principal railroads in our country. The distance will be about seventeen miles, and considering the mountainous character of the country, the work required is not very heavy. It is proposed to extend the line for a passenger thoroughfare, eastwardly to Pottsville, and westwardly, via Shamokin, to Sunbury, so as to make it part of a line from Philadelphia to the northern counties of Pennsylvania, and to Lake Erie. This road will furnish an outlet to the extensive coal lands formerly owned by Mr. Girard, and now by the city of Philadelphia.

Camden and Amboy Railroad.

Its Privileges and its Abuses.

Absence from the city prevented us from noticing the article of "D.," in the City Item of 1st inst., we therefore now give it entire, in the fulfilment of our promise to give the company the benefit of the circulation of the Journal, for the able arguments of their amiable champion. He says, to the editor of the Item,

Mr. Fitzgerald, your correspondent "A.," as well as the editor of the, *Railroad Journal* of this city, differ somewhat from myself in their views of the Camden and Amboy railroad company. The former, after asserting that the travelling charges are "extortionate," and deprecating the severity which would class him with "cavillers and croakers," for holding that opinion, is willing to be pacified by the "reduction of the fare." Now, I am at issue with him, on both his assertion and demand.

"In the first place, I have yet to be convinced that the charges on this road are *unjust*. Next, I do not consider *all* to be "cavillers and croakers," who are dissatisfied with those charges. And, thirdly, I do not think that *any* amount of reduction would satisfy those who can be truly classed as such.

"Now, what constitutes *extorsion* is at least a question; for what to one man may appear exorbitant, is often regarded by another as comparatively trifling. A penurious individual will "cavil" at a penny charge for toll in crossing a bridge, though he cross but once a year, while another man will not murmur even if he is compelled to travel the bridge a thousand times during the same period. The latter in this case is a considerate man, who is aware that the bridge was built for public accommodation, and that the builders were rewarded for their enterprise by a *charter*, empowering them, *for a period*, to levy toll. Therefore he is willing to pay his *share*, until the charter *expires*.

"But if, after a series of years, the bridge owners *raise* the toll to *two* cents, the man murmurs, and justly, because this is extortion at once—being what was never contemplated. He argues that the bridge owners have no right to do this; for it should have been done, if at all, in the *outset*.

"Now, "A." murmurs at the present fare. But the New Jersey legislature, in 1830, knew (and so do all our legislatures know, when they incorporate a company) what that company *might* do; and so they placed restriction on it. The New Jersey legislature limited the charge for each passenger to "*ten cents per mile*." Now, supposing the company had continued to act *up* to the limit of the restriction and charged $8 88 fare for the 88 mile route, still the charter would not have been broken. They had the *right*, under their charter, to charge $8 88, and nothing but the repeal of the incorporation act could prevent them.

"Morse's telegraph company, in obtaining a patent and charter, could intersect and radiate the lines throughout our continent. If that charter were for thirty years, and some "caviller" should oppose it, by saying, "they may *extort* ten cents a word for the whole time," we would laugh at the fellow; because the incalculable importance of telegraphic intercommunication would upset instantly so weak an argument. Yet, I doubt not, there will be many such "cavillers," who, before the telegraphic charters shall expire, will be unwilling to allow even letter post charges for such skill and enterprise.

"I cannot attach much importance to A.'s *peculiar* reasoning in regard to "accommodation." If a lady has "left a small trunk behind," I think she had better get it again the best way she can; but really I cannot see what the Camden and Amboy railroad company has to do with the matter.

"Our friend of the *Railroad Journal*, talks very poetically about the "writhing of the victims under the heel of oppression," and of "oppressors" "who are systematically oppressing the masses;" and I am almost tempted, in view of this feeling strain, (and because it is so *apropo*) to call his attention to certain mining districts, and to the systematic tyranny of some of the "Iron Manufacturers," whose *Gazette* the worthy editor has the credit of issuing. I strongly suspect that more "*victims*" may be found in those quarters among "the masses."

"Our friend speaks very learnedly, too, in regard to the "fathers of the railroad system," and mana-

ges to prove very conclusively, (and to my entire satisfaction) that it did require great energy and perseverance to succeed in the *initiative* of the railroad movement. Col. Jno. Stevens, as well as Andrew J. Allen, of Massachusetts, and many others whom I might name, could bear witness to the arduousness of the primary labors; and it is for *that* very reason (without taking note of legal jnstice) that we should allow the *charter* of the company to expire, before we attempt to cheat them out of what wise men in deliberation granted to their enterprise. D."

We will merely advert to one or two points in his reply to "A.," and first, he says that "the New Jersey legislature"—of 1830, which granted the charter —"limited the charge for each passenger to *ten cents per mile*—now, suppose the company had continued to act *up* to the limit of the restriction, and charged $8 88 fare for the 88 mile route, still the charter would not have been broken. They had the right under their charter, to charge $8 88, and nothing but a repeal of the incorporation act, could prevent them."

The writer "D." here evidently holds out the idea that the company are *still*, and have been, *all along*, at liberty to charge "*ten cents a mile*"—at least such is the construction we put upon the above paragraph —because he either does not know, or does not choose to tell, that, by an act of the New Jersey legislature, passed in March, 1832, the company were restricted to the charge of not "*more than three dollars for a passenger between New York and Philadelphia*, instead of the rates allowed in the original charter."

Now it is this charging "*more than three dollars*,, for a passenger between New York and Philadelphia," and more than eight cents per ton per mile for freight—*contrary* to the express provisions of the laws by which they hold their privileges—for the preservation of which "D." is so strenuous—that we, and others, complain; and were they to keep within the requirements of these laws, and charge only what they allow, we should not feel at liberty nor disposed, to censure them, for exacting the legal rates, under those laws, however we might view the subject as a matter of *policy* on the part of the company, or of *justice* in the legislature of New Jersey to restrict a fair, healthy, competition, which always gives life and profit to business.

As to his remarks in relation to the editor of this Journal, we can only say they are exceedingly *amiable*, for which we are truly obliged—though, if the truth were known, it would probably appear that "D." is the "*poet*," and has, in many of his remarks, exercised a poet's license—yet, if he will point out to us, "in the mining districts, the systematic *tyranny* of some of the *Iron Manufacturers*," we will join him in exposing their iniquity, as we are endeavoring to do in the matter of the "Camden and Amboy railroad company."

In another communication of "D.," in the Item of 8th inst., he refers to an article signed "K.," giving a comparative statement of the fares on American railroads, he says "the whole drift, of my good natured opponent, seems to be to *prove that because other railroad lines are cheaper, so, also, should the Camden and Amboy railroad be*."

And, if we understand the writer alluded to, "D." is correct—it does appear that "K." has in view that important point, viz: that if other roads, with far less advantages for business, can afford to carry passengers for 2½ cents a mile, and freight for *four cents per ton per mile*, so also can the Camden and Amboy company do likewise.

But "D." is a stickler for the laws *as they are*, a thorough "law and order" man—a real *algerine*, as they say in Rhode Island—he is none of your "largest liberty" men, who take the laws into their own hands when they are not in accordance with the views of the people—and therefore he says,—"The *principle* is what I contend for. Render one species of contract nugatory, and you make the whole law of contracts null and void. Let legal rights be once struck at, and the fabric of protection, of which they are the foundation, will be wholly insecure."

In *this* we agree *fully* with him—but we, at the same time contend that those, who invoke the *protection* of the laws, shall, also, be governed *by* those laws—and that this company shall carry passengers *between New York and Philadelphia* for not to *exceed* $3, instead of *four dollars*—and merchandise for not to exceed *eight cents per ton per mile*, or $7 04—according to "D.'s" measurement, 88 miles—instead of $11 20—or 50 cents per 100 pounds, which we are informed is the usual charge. What say you, Mr. D., to this? *of course* you will aid us in this effort because it is in accordance with the "*principle*" for which you contend—"*the law of contract*" between the people of New Jersey and the railroad company.

On another page of this number will be found a ray of light, in relation to this subject—and *other* rays will appear from time to time.

Vicksburg and Brandon, Miss., & Montgomery, Ala., Railroad.

We sometimes neglect important, and give ready attention to smaller matters—as our friends perhaps sometimes think, if they do not say—and so may have thought the writer of the following letter, which has been so long neglected—though not forgotten.

The writer is a gentleman of ability, and high respectability where he is known; who has looked well into the subject of railroads, as a medium of business in the southern, or planting States, and his views are entitled to special attention on the subject now under consideration.

We give his letter, and the memorial referred to in it, as it contains a plan by which the U. States government—for the postoffice and war departments —may secure the use of important railroads, for all time, without inconvenience, or heavy cost. We should like to see some such plan adopted in the southern and western States.

Vicksburg, Miss., November 23d, 1847.

To the Editor of the American Railroad Journal:

Sir: In your Journal of the 13th instant, I find an article headed "Postoffice Department and the Railroads," which exhibits an instance of a sort of conflict, very injurious to the public, and in my opinion, apt to be much more frequent in future than heretofore. I enclose to you a paper containing the proceedings of a railroad convention in this State, and in the memorial to Congress among those proceedings, I think you will see the principle by which only the difficulty can effectually be removed. I beg your examination of it—and, if you think proper, its publication (i.e., the memorial to congress) in your Journal.

Very respectfully, W. S. B.

Though of considerable length, we ask for this memorial an attentive perusal, and the favorable consideration of congress, whenever the subject shall be brought before it.

To the Congress of the United States:

The memorial of a convention of delegates from the counties of Scott, Rankin, Smith, Simpson, Jasper, Newton, Lauderdale, and Neshoba, and the cities of Jackson and Vicksburg held at Hillsboro' Miss., on the 14th and 15th days of July, 1847, respectfully represents—

That by the 16th section of the act of congress, approved 4th September, 1841, the two per cent. fund reserved upon the admission of the State of Mississippi into the Union, for "making a road or roads leading to said State;" was set apart for making "a railroad from Brandon in the State of Mississippi, to the eastern boundary of said State, in the direction as near as may be, of the towns of Selma, Cahowby, and Montgomery, in the State of Alabama."

The 17th section of the same act made a disposition of the Alabama two per cent. fund to be applied in part of the extension of said road through that State to the Chattahouchie, near West Point in Georgia.

These provisions have reeeived the sanction of both States by legislative acts and the popular approbation.

In Alabama a part of the fund has been expended by the Montgomery and West Pt. railroad company, in continuing that part of the line.

The Mississippi fund remains unexpended with the exception of $25,000, loaned by consent of congress, to aid in the completion of the railroad between Jackson and Brandon.

Both States have passed acts to establish a company with power to construct the whole railroad between Montgomery, Alabama, and Jackson, Miss.

Your memorialists beg leave to call your attention to the national considerations connected with this road, and to solicit your favorable action on certain measures deemed essential to the early completion of the work and called for by the most urgent reasons of national policy.

This road between Jackson and Montgomery, will be about 240 miles long, and will constitute the principal wanting part of the chain of railroad communication between the Potomac river near Washington city, and the Mississippi river at Vicksburg—the other wanting parts being about 160 miles at the line of North and South Carolina, and about 60 miles on the west border of Georgia.—The total chain of railroad will consist of 726 miles on one route, and 806 on another, now completed and in operation, (with the exception of a few miles yet in progress,) and 460 miles as above specified, wanting to complete the chain. This will make an aggregate length of 1186 miles of railroad, connecting to Washington by some 50 miles steam travel on the Potomac, and to New Orleans by 400 miles steam travel on the Mississippi river, and will reduce the time of travel from Washington city to New Orleans, to four days or less—to Little Rock, Arkansas, or to Memphis, to six days, and to St. Louis to seven and a half days. In view of these results, we feel entitled to claim this to be the great *southwestern national route*, and to treat it as being eminently entitled to favor in all exercise of the legitimate powers of the federal government.

In the present condition of public affairs, your memorialists think proper to limit their requests to such measures only, as must be approved by the general judgment on account of their obvious, direct and extensive influ-

ence on the interests universally conceded to have been placed in your hands by the constitution, and even in aid of such results to ask no expenditure of money which is calculated unduly to burthen the public treasury.

1st. We request a *liberal grant of public lands* near the route, and on this subject we lay no broader claim than the precedent established in the grant made to the Wabash and Erie canal, a work of great merit, but in no respect so important as the one now recommended, viz: alternate sections of land in the land districts in which the road may run.

2d. We *ask* in connection with this road, *an improved system of post road contracts.*

The present four year contract system has been found to answer and probably will answer the purpose on all routes on which there is sufficient competition among bidders capable of furnishing the desired transportation. Wherever coaches, horses or steamboats are the approved means of conveyance, no change seems to be demanded. But wherever the conveyance is by railroad, their increased speed sets competition at defiance, and the government is general bound to acceed to their terms or to furnish an inferior transportation. In practice this has been found most embarrassing in regard to the character of the service. Railroads change their hours at great inconvenience to their regular business, and will submit the regulation of hours to the government only upon receiving valuable equivalents. The present system is defective because it does not establish such a control. On the contrary, if increased speed be desired on a great line, it becomes necessary for the government to repeat the tiresome and often fruitless work of negotiation with said roads, great and small, on the line to be improved. The embarrassment resulting from these causes may be tolerated on inferior routes. On the great thoroughfares of commerce, it is fatal to the success of the postoffice system, properly considered as a system of benefits and advantages to the public.

The recent act to establish steam vessels as mail carriers between the Atlantic ports and New Orleans, is a concession of all the principles here contended for.

Such means combine the war with the postoffice powers and duties of the government. For both purposes, the railroad we have described is vastly superior. It unites speed with certainty, safety, capacity and economy. The railroad accomplishes in five days between New York and New Orleans, what the war steamer does in eight days. It accomplishes that with far more certainty as to the time of arrival, and with perfect safety —so that a mail can scarcely ever be lost on the railroad, while storms, reefs, enemies, or accidents may destroy it on the sea route. It has a *capacity* of performance almost unlimited—or either of which the additional means can be supplied as fast as needed, and up to an unknown extent.

It attains an *economy* to which *ocean steam navigation* must ever be a stranger. Less than ten ships could not make a daily line on this route, of which the expense would be enormous, when compared with the highest compensation asked for daily or oftener, by the railroad line. If we place this at the highest and perhaps proper point of $300 per mile for post office service, and $100 per mile for war service, the aggregate of $400 per mile would amount to $474,400 per ann. for the entire 1186 miles of railroad, or but little over a half million per annum, on the longest and most important line of communication in the Union, namely, that between Washington city and New Orleans. Having premised these advantages, we beg leave to state as the plan now proposed, the following, to wit:

Let congress pass an act "providing for a permanent mail arrangement on the southwestern railroad route." The contracts will be for $300 per mile per annum for twenty years, with stipulation to carry the mails afterwards at a compensation to be awarded by the government of the United States. Two thirds of the yearly pay on the railroads in operation, are to be applied towards completing the wanting parts, which will likewise be entitled to the compensation, during the 20 years, in proportion to the miles of service they may render, payment to be made quarterly, as the service shall be performed. For this compensation the government will require the best mail service, upon schedules to be arranged from time to time by the postoffice department.

The members of this convention are assured that such an act, if passed at the approaching session of congress, can be carried into successful operation. The motives to the railroads now completed for entering into such an arrangement, consist principally of their expectation of being benefitted by the increased travel and traffic resulting from the construction of the connected lines of railroad. As these shall be finished, their motives for a favorable arrangement with the government will be proportionately diminished, and therefore any delay is calculateld to hazzard the advantages which the arrangement will secure.

3d. We ask that you should provide for contracts on this route for the transportation of troops, munitions of war, etc., free of charge, for a reasonable annual compensation, say $100 per mile, to continue 20 years, and with provisions similarly to those above described in relation to mails.

The *three* enactments above recommended will, in our opinion, secure the completion of the Southwestern railroad from the Potomac to the Mississippi river, within four years at farthest, and its control by the United States for mails and military transportation permanently afterwards.

Objects so important are seldom attainable at so small a cost. The $174,400 which will be payable for mail service, bears no great disproportion to the sums which have been paid for annual service of a very inferior character, over the same line, while the advantages secured to the military department may prove to be invaluable. Limited to the extent of the 1186 miles, this road will attain a point within 650 miles of the Rio Grande and it is respectfully suggested, whether in a military view of the subject, the completion of the line even to that point by such means as have before been designated, would not be a great economy of money, as it might be the means of saving valuable lives; for while it is conceded that the present hostilities with Mexico may sooner cease, it is hardly to be doubted that a large military force will be necessary in that quarter for years to come.

Your memorialists having thus presented their wishes, and, as they believe, the wishes not only of those they represent in convention, but of the mass of the people of the State, will conclude by insisting that they propose nothing which is not strictly national in its character and object; nothing which is not essential to the successful performance by you in a manner commensurate with the progress of the age: of your duty to "establish postoffices and post road," and to take care of the military affairs of the union, and nothing which, in executing these duties, involves any unusual provision, the advance of a dollar before performance of the service for which it is due, or the payment of a dollar more than is fairly proportioned to the service done and the benefit received.

If the objection be taken, that such action as we desire for the Southwestern railroad route, would be asked for by others, it is a sufficient answer to say, that whenever any route shall present equal claims, it will be your right and duty, because it will be to the interest and clearly within the power of the government to grant it.

If several such routes could be completed by such simple, economical and useful measures, it would be a great gain of money and an iron bond of union to this great confederacy.

All of which is respectfully submitted.

The resolutions and address to the people of Mississippi, are well drawn, and forcibly put—and we hope they may secure the united and continued action of all those interested in the work—as well as the favorable consideration of congress.

There is an exceedingly well written letter, by *Col. Gadsden*, of the South Carolina railroad, to the postmaster general, accompanying these proceedings —from which we quote the following very *forcible*, and *true* remark, viz:

"I have do doubt but that the South Carolina and Georgia roads will come into a measure such as Judge Bodley proposes, provided it can be first consummated in Washington, and I really hope that his visit to Washington will accomplish such a measure. It is of vast importance to the public, and as our republic extends, the necessity of more certain and expeditious means of intercommunication becomes the more necessary as the true, if not only bonds of union. We can never be weakened by expansion, if the extremities of our domain are brought in more intimate connection by railroads, actually bringing the shores of the Pacific nearer to Washington than was Boston to New Orleans a few years since."

There is no other way, than by railroads, that the bonds of our union can be made sufficiently powerful to hold us together.

Bank's Patent Steel Tyres.

If the following account of this kind of railway tyre is accurate, it is important to our readers to know it—therefore we give it as we find it in the Civil Engineer and Architect's Journal for June.

Mr. Fothergill read the following paper: "*The statement of facts relative to Mr. Thomas Bank's patent plan of steeling the tyres of railway wheels, is the result of nearly five years' trial, and shows the cost and durability of Staffordshire tyres, steeled on his plan, as compared with Low Moor tyres.*"

The present cost of Low Moor tyres, for 3 feet wheels, will be—

Four tyres of 3 cwt. each—12 cwt., at 22s.	£13 4 0
Putting on the tyres ready for work	8 0 0
Twice turning up after wearing hollow	1 0 0
Total cost	£22 4 0

Suppose these tyres to run 50,000 miles on an average—that is 50,000 miles at a cost of £22 4—the present cost of Staffordshire tyres will be—

Four tyres of 3 cwt. each—12 cwt., at 12s.	£7 4 0
Putting on the tyres ready for work	8 0 0
Steel for steeling one set—1¼ cwt., at 42s.	3 3 0
Man's wages for turning grooves in wheels	0 10 0
Smith's wages, for inserting the steel	0 10 0
Man's wages, for turning up after steeling.	0 10 0
Men's wages, for drilling and rivetting	0 7 6
Total cost	£20 4 6

These tyres are proved to run before steeling 18,000 miles, and after steeling 100,000 miles—making a total work of 118,000 miles at a cost of £20 4 6. Now, subtracting 50,000 miles—the work of Low Moor tyres—from 118,000 miles—the work of Staffordshire tyres steeled—we have 68,000 miles which the latter will run more than the former, and at a cost of 39s. 6d. less. From the above statement, we see the cost of Low Moor tyres, per 1000 miles, is 8s. 10½d.;—while the cost of Staffordshire tyres, steeled, is only 3s. 5½d. per 1000 miles. The truth of this statement is proved by a test of nearly five year's trial, on those lines on which the plan has been most used. We are aware that railways did not all wear out the tyres alike; but on those lines where the iron tyres will run more than stated above, the steeled tyres will run more in proportion, and the plan is attended with no danger whatever.

NOTE.—The above statement shows only the advantage of steeling the tyres once, but we have steeled many a second time, after they have run the above distance. The same tyres may be steeled a second time at a cost of £5 per set, when they will run 100,000 miles more—making a total of 218,000, at a cost of £25 4 6—or 2s. 4d. per 1000 miles The advantage of steeling a second time is secured by taking the tyres in time, while they have the requisite strength for steeling the first time. The general objection against the plan is, that there will be a deal of trouble to carry it out; but this objection, if properly examined, will be found to be without foundation. When the wheels want turning up, they must be taken from under the carriage or wagon; and, when taken from under, the cutting of the grooves in the tyres for the steel will not cost more than 5s. per pair in men's wages; and, when the grooves are turned, one smith and three strikers will insert steel segments with 10 pairs of 3 feet wheels in one day of 10 hours; after which turning up the steeled wheels will take very little more time than turning up without steeling, which proves that the trouble will not be so great as some people imagine, and nothing when the durability and saving which is effected is considered, by the tyres being steeled on this plan.

The paper was accompanied by a letter from Mr. Jenkins, of the Manchester and Leeds railway, highly commendatory of the steel tyres.

Mr. Peacock remarked, that he had tried the wheels steeled by Mr. Bank's process, and the result was, that whereas he was formerly obliged to repair the wheels of the tenders every four months, those with steel tyres did not require repair oftener than once in 12 months. He had not fully tested their wearing qualities, but he had no doubt that they would be found to be most economical as well as useful. Several other of the members spoke in high terms of the value of this patent.

Lubricating Composition.

As this is a very expensive department on railroads, any *good*, yet *more economical*, process will be acceptable to many of our readers—therefore we give the following from "Newton's London Journal."

Thomas Denne, of Bermondsey, Surrey, strap manufacturer, for "*Improvements in the manufacture of grease or compositions for atmospheric pipes, and for lubricating the axles and moving parts of machinery.*"—Granted, April 27; enrolled October 27, 1847.

The improvements consist, first, in preparing a lubricating composition by combining oil, or tallow or other grease, with certain light, soft, white, and unctuous precipitates or bodies, insoluble in water (so as to be incapable of being used as detergents,) and obtainable in the manner hereafter described; secondly, in preparing a lubricating composition by combining oil, or tallow, or other grease, with vegetable black or with lamp black; and, thirdly, in mixing the compositions, prepared according to the first and second improvements, in such proportions as may be desirable, in order to render the same more suitable than when used alone for the lubricating purposes above mentioned.

The mode of carrying out the first improvement is as follows: The patentee introduces into a vessel or tank such a quantity of *liquor calcis*, or of a saturated or other solution of sulphate of magnesia, or of sulphate of magnesia and ammonia, as he considers will be sufficient for the quantity of composition required to be prepared; he then gradually pours into and mixes with the same a strong solution of such of the vegetable or animal oils as are most suitable for the purpose, and which have been rendered miscible in water by boiling the same with alkali or caustic ley; or, instead of the solution just mentioned, he employs a strong solution of either the soft or hard soap of commerce; or he introduces the liquor calcis, or the solution of sulphate of magnesia, or of sulphate of magnesia and ammonia, into the pasty and saponaceous fluid, obtained by boiling either oil, or tallow or other grease, with alkali or caustic lie, having first drawn the fire and allowed the pasty mass to cool down to 100° Fahrenheit. The patentee continues to add the saponaceous fluid so long as any light, soft, white, and unctuous precipitate continues to be produced; and then he separates such precipitate from the mother liquor, by filtration through a fine linen sieve, preserving the mother liquor when it contains, in solution, any valuable salts, so as to make it useful for manufacturing caustic leys.

112 pounds of the precipitate, obtained as above, are to be combined with from 40 to 112 lbs. of palm or other oil or grease; the quantity of oil required will vary according to the peculiar character of the oil employed—but about 56 lbs. will, in most cases, be sufficient. The apparatus used for effecting this combination is a cylindrical iron vessel or mill, open at the top, containing a revolving agitator, and having two pipes at the bottom, furnished with stop cocks, for the purpose of discharging any water or other fluid that might accumulate inconveniently during the process. After the precipitate has been introduced into the mill, and the agitator set in motion, the palm or other oil is gradually added; then, as soon as the proper quantity of oil has been used, the mixture will thicken and assume a consistence considerably greater than the oil or other ingredient or ingredients possessed in the first instance; and a chemical combination will so far take place, that the greater portion of the mother liquor contained in the precipitate will be driven out and must be drawn off by the pipes above mentioned. A supply of cold water is next allowed to run upon the grease or composition in the mill, so that it may be washed therein, in order to cleanse it from all adhesive impurities of the mother liquor; after which the water is to be drawn off, and then a few pounds of oil are to be mixed with the composition, to separate any adhering particles of water, and to give it a finer and better appearance This grease or composition is now ready for use; but if it should not possess sufficient consistence for the purpose to which it is to be applied, from 5 to 28 lbs. of melted tallow should be mixed with it in the mill; or, when the tallow is to be used, it may be mixed with the composition before the latter is washed with water, as before mentioned.

The second improvement consists in the production of a black grease or composition, which may be exposed to great extremes of heat and cold, and does not readily freeze, by combining 160 lbs. of palm, olive or other oil or grease, with from 10 to 40 lbs. of vegetable black or lamp black. The oil is first placed in the mill before described, and then the agitator being put in motion, the vegetable black or lamp black is added in small quantities at a time; and the mixture is agitated until the black grease or composition has acquired a sufficient amount of consistence.

The third improvement consists in combining a portion of the black greese or composition with grease or composition made in the manner described under the first improvement, to prevent the same from freezing when exposed to frost or snow, or to protect it from the action of extremes, either of heat or cold —the combination of the compositions is effected by the use of the mill before described.

General Railroad Law of New York.

We find the following remarks upon this subject, in the Am. Min. Jour. of 8th June—and shall publish the law hereafter at length. The editor says,

We occupy a large space in this number of our paper with a publication of the act—"To authorise the formation of railroad companies," passed by the legislature of the State of New York at its last session. This we think, is justified by the importance of the law as a public measure, snd from its connection with one of the most prominent enterprises of the age. As a mere authoritative act, its operation is, of course, confined to the single State of New York, but the interests that grow out of it, are limited to no mere territorial district, and belong to no exclusive jurisdiction. They extend to all the great and diversified relations of business, affect social intercourse, and in no small degree act upon and determine the general welfare.—The trade and capital and intercommunication not of New York alone, but of the whole country is concerned in, and will be influenced by the operation of this law, and therefore is it possessed of a general as well as of a local interest.

Whether it would not be better to grant special charters for railroad purposes, that each application might be determined upon its own merits, rather than to provide for the same by general law is a question that admits of a good deal of doubt. The constitution of the State of New York, recently adopted, requires the legislature to enact general laws of incorporation, when, in any case of application for a charter, the object thereof shall be deemed worthy, and is of a character that admits of such general law.

The railroad act which we publish, was passed under this provision of the constitution. It seems to have been framed with great skill, consideration and judgment, is very full in its details, and has made careful provision for securing the rights that may exist under and be governed by it. Some have objected to it on the ground of an individual liability clause on the part of the stockholders. From a careful examination of the different sections of the act, we find that the only individual liability that exists, is in the following cases:

1st. The stockholders are *individually* liable to the creditors of any company incorporated under the act, to an amount equal to the amount of stock held by them respectively, for all debts and contracts made by the company until the whole amount of capital stock is paid in.

2d. They *are jointly and severally* liable for all debts due to their laborers, servants and operatives for services performed for the corporation, but not liable to an action therefor, until an execution against the corporation shall be returned unsatisfied, and then for the amount due on such execution.

The liability, in the first place, is a limited liability, and operates as a security for the stock being paid in. It seems to us a wise provision, as it certainly is one of simple justice. In the other case, the liability can never be a very large one under any careful management, and is for the protection of a class of laborers, that need some security of this kind. There is a clause which creates a liability on the part of the corporations, to the day laborers employed by contractors for the labor actually performed on their respective roads, if notice of the claim is given within 35 days after having been performed, to the engineer in charge of the section on which such labor was performed. This is wise and just, as it tends to secure responsibility on the part of the contractors, and makes it for the interest of the several corporations to see that the laborers ure paid. And there is no hardship in it, since the corporations also have their security in that which the law requires them to take from their contractors for the payment of their laborers employed by them, and also in the notice of the claim they are entitled to receive, which will enable them to withhold from the contractors the amounts of such claims. We regard each of those provisions as admirable features of the law.

The act contains one important check upon an indiscriminate formation of companies under it, in that no company is authorised to take private property for the construction of its road, until the public utility of the same shall have been determined by the legislature. The effect of this will be to bring every railroad project directly before the legislature for its sanction, as it is not probable that by any amicable arrangement a right of way can in any case be wholly secured.

Punching Machine.

One *great* work produces many *useful* ones. So in the construction of the Conway bridge, important and useful machinery has been invented, which will be exceedingly useful hereafter, and amongst others a *punching* machine upon a large scale—as we find it described in the following article.

Description of a Perforating Machine made for Mr. Evans, the Contractor for the Iron Tubular Bridge, which is to carry the Chester and Holyhead Railway over the River Conway.—By Mr. Fothergill.

This machine is employed to perforate the plates for the above named bridge, and is at present adapted to punch such pitches only as that work requires, viz: 3 inches to 4 inches from centre to centre of river holes, with latitude for departing considerably from those (general) pitches in the lateral rows of the holes. This machine is constructed to perforate, at each stroke, a row of holes across a plate 3 ft. 5 in. broad; but, by employing a series of cord plates, (similar to the cards used in the Jacquard loom,) any number of punches may be put out of action at pleasure; and by means of a blank card at the end of the series, the machine is put out of action at a point where no obstacle is presented to the taking out of the perforated plate, and putting in a blank plate in its stead. The operation of changing plates, weighing six or seven hundred weight each, is performed by half a dozen men in less than one minute, and whilst one plate is being punched, these men get another ready to put into the machine. As these machines take eleven to twelve strokes per minute, it follows that (with a 4 inch pitch,) a 12 feet plate may be punched in less than four minutes, and consequently that (allowing one minute for changing,) it may perforate 12 such plates per hour. Many of the plates in the bridge are 12 feet long, 2 feet 8 in. broad, and ¾ in. thick, and are punched for rivets 1 inch in diameter. As there are but few engineering concerns where such a perforating machine as that at Conway could be employed more than an hour or two per day, it appears to be very desirable that iron masters should have them, and that they should also have machines for straightening and bending plates; by which means they would be enabled to supply their customers with plates in a fit state for being riveted together. Were this system brought into practice, engineers would turn their attention to adapt their work to the capabilities of the perforating machine, and thus great perfection, despatch, and economy of construction, would be the result. A drawing represented a machine (similar in principle to that already described,) adapted to perforating paper and thin sheet metal, such as sieves and window blinds are made of, in which plain perforations, arranged in squares, may be made by a single row of punches, by giving to the plate a lateral alternating motion; but a double row of punches arranged intermediately to each other, is preferable. Each of these arrangements admits of a great variety of fancy patterns by the application of the Jacquard principles. A large class of patterns may be produced by punches of various forms and sizes, which shall be so grouped together as to give to the work a columnar effect; and the range of this class may be extended by giving the plate a zig-zag or waved motion, and still further extended by combining it with the Jacquard. Another class of patterns may be produced by employing two distinct sets of punches of different size or form, and with each set a Jacquard, to bring punches of the one or other set into action as required, and thus be made to produce representations of figures, landscapes, etc., at pleasure. A further variety of patterns might be produced by the introduction at intervals of punches containing set patterns, such as sprigs, flowers, etc., and perforating the ground with small punches.

The foregoing is but a brief description of the capabilities of the Jacquard perforating machine, which in good hands would be found to be nearly co-extensive with those of the Jacquard loom. Another drawing represented a double acting machine for shearing (at the one side,) and punching (on the other,) at the same time, plates of iron ¾ inch in thickness with holes 1½ in. in diameter, and to perform both processes to the extent of 18 inches from the edge of the plate.

Eastern Railroad Company--Twelfth Annual Report.

Capital stock	1		$2,650,000 00
Increase of capital stock since last report			
Capital paid in per last report		$1,800,000 00	
Capital paid in since last report	2	450,000 00	
Total amount of capital stock paid in			2,250,000 00
Funded debt per last report		500,000 00	
Funded debt paid since last report	Nothing.		
Funded debt, increase of, since last report	"		
Total present amount of funded debt			500,000 00
Floating debt, per last report		515,133 14	
Floating debt paid since last report			
Floating debt, increase of, since last report		7,087 62	
Total present amount of floating debt	3		522,220 76
Total present amount of funded and floating debt			1,022,220 76
Average rate of interest per annum on do, [5 per ct. on *funded*—6 per ct. on floating. Not including extra interest paid, $57 53			

COST OF ROAD AND EQUIPMENT.

For graduation and masonry, per last report		452,032 21	
For graduation and masonry paid during the year	4	185,883 26	
Total amount expended for graduation and masonry			637,867 47
For bridges, per last report		241,634 23	
For bridges, paid during the past year		35,314 28	
Total amount expended for bridges			276,948 51
For superstructure including iron, per last report		708,035 03	
For superstructure, including iron, paid during the past year		237,631 51	
Total amount expended for superstructure, including iron			944,666 54
For stations, buildings and fixtures, as per last report		267,944 25	
For stations, buildings and fixtures, paid during the past year		143,837 70	
Total amount expended for stations, buildings and fixtures			411,781 95
For land, land damages and fences, per last report.		202,260 48	
For land, land damages and fences, paid during the past year		52,172 62	
Total amount expended for land, land damages and fences			254,433 09
For locomotives, per last report		98,102 79	
For locomotives, paid during the past year		14,000 00	
Total amount expended for locomotives			112,102 79
For passenger and baggage cars, per last report		71,160 65	
For passenger and baggage cars, paid during the year		12,213 35	
Total amount expended for passenger and baggage cars			83,374 00
For merchandize cars, per last report		31,736 03	
For merchandize cars paid during the past year		6,656 50	
Total amount expended for merchandize cars			38,392 53
Total amount expended for gravel and hand cars			6,934 34
For engineering and other expenses, per last report.		142,028 81	
For engineering, and other expenses, paid during the past year		28,676 94	
Total amount expended for engineering and other expenses			170,705 75
Total cost of road and equipment			2,937,206 97

CHARACTERISTICS OF ROAD.	Main road.	Marbleh. branch.	Glouces. branch.	Satis. br.
Length of road	38	10	6 3	
Length of single track	22	10	6 3	
Length of double track	16			
Length of branches owned by the company, stating whether they have a single or double track				
[Single track.	[lbs.	3m.	13·557	3·4112
Weight of rail per yard in main road	46 & 57			
Weight of rail per yard in branch roads		46 lb.	46 lb.	46 lb.
Maximum grade, with its length in main road	40 feet.			
Maximum grade, with its length in branch roads		40 ft.	45 ft.	41 ft.
Total rise and fall in main road	578,279			
Total rise and fall in branch roads			333·26	39½ ft.
Shortest radius of curvature, with length of curve in main road, [radius, 1146 feet: length	1·100 ft.			
Shortest radius of curvature, with length of curve in branch roads, [radius, 1146 feet; length		900 ft.	1910 ft.	400
Total degrees of curvature in main road	450 deg.			
Total degrees of curvature in branch roads			451	283
Total length of straight line in main road	ms. ft.			
Total length of straight line in branches	28·4980			ms. ft.
Aggregate length of truss bridges		1·3310		2·1662
Whole length of road unfinished on both sides	2218 ft.	None.		

DOINGS DURING THE YEAR. 5

Miles run by passenger trains	203,352	
Miles run by freight trains	33,804	
Miles run by other trains	4,375	
Total miles run		241,531
Number of passengers carried in the cars	892,896	
Number of passengers carried one mile	12,757,026	
Number of tons of merchandise carried in the cars.	41,047½	
Number of tons of merchandise carried one mile	1,165,873½	
Number of passengers carried one mile, to and from other roads	6 3,413,556	
Number of tons carried one mile to and from other roads	331,444	
Average rate ot speed adopted for passenger trains, including stops	21 miles.	
Average rate of speed adopted for freight trains, including stops	15 miles.	
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile	710,167,600	
Estimated weight of merchandise trains, including engine and tender, but not including freight, hauled one mile	7 3,042,360	

EXPENDITURES FOR WORKING THE ROAD. 8

For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron	10,057 35	
For repairs of truss bridges	1,097 33	
For renewals of iron, including laying down	625 50	
For wages of switchmen, gate keepers and flagmen	3,079 50	
For removing ice and snow	9 17 00	
For repairs of fences, gates, houses for flagmen, gate keepers, switchmen, tool houses.	363 59	
Total for maintenance of way		15,140 27

MOTIVE POWERS.

For repairs of locomotives	6,546 43	
For new locomotives to cover depreciation	None.	
For repairs of passenger cars	3,828 51	
For new passenger cars to cover depreciation	None.	
For repairs of merchandise cars	1,201 01	
For new merchandise cars to cover depreciation.	10	
For repairs of gravel and other cars	815 05	
Total for maintenance of motive power		12,391 00

MISCELLANEOUS.

For fuel and oil	41,016 94	
For salaries, wages and incidental expenses, chargeable to passenger department	19,592 82	
For salaries, wages and incidental expenses, chargeable to freight department	3,150 53	
For gratuities and damages	571 31	
For taxes and insurance	3,549 64	
For ferries	3,306 66	
For repairs of station buildings, aqueducts, fixtures, furniture	1,619 92	
For interest	25,000 00	
For amount paid other companies, in tolls for passengers and freight carried on their roads, specifying each company	None.	
For amount paid other companies as rent for use of their roads, specifying each company	None.	
For salaries of president treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items	33,714 35	
		132,552 18
Total expenses for the year ending Dec. 31, 1847		160,083 45

INCOME DURING THE YEAR.

For passengers:—		
1. On the main road exclusively, including branch owned by company	299,691 96	
2. To and from other roads, specifying what: [Portland, Saco and Portsmouth	43,680 92	
		343,372 88
For freight:—		
1. On main road and branches owned by company.	42,207 75	
2. To and from other connecting roads: [Portland, Saco and Portsmouth	8,247 46	
		50,455 21
U. S. mails, $8,461 13; rents, $9,105 50; incidental, $13,446 11		31,012 74
Total income		424,840 83
Net earnings after deducting expenses		264,757 38

DIVIDENDS.

[June 30, 4 per cent.	109,300	
[Dec. 31, "	109,300	
		218,800
Surplus not divided		46,157 38
Surplus last year, [including sinking and renewal funds		130,403 25
Total surplus		176,560 63
Less renewal fund expended during the year to cover depreciation, viz:		
Road and bridges, Buildings, Engines and cars		31,644 87
Total surplus		141,915 76
Of which there stands in the books of the company to sinking fund	89,134 34	
And to surplus income	52,781 42—	$141,915 76

(1.) This is now understood to mean the largest amount authorised by the act of incorporation. The act states that the capital shall be not less than ———, nor more than ———. The Eastern railroad was authorised by the original act, to issue 20,000 shares —by the act for Marblehead branch, 1,000— by act for Gloucester branch, 5,000—and by act for Salisbury branch, 500—total, 26,500, of which 3,000 are held by the State as collateral, leaving available 23,500. In the report last year, therefore, this item should have been $2,650,000, instead of $1,800,000.

(5.) Partly paid in 1846, and charged floating debt in report of that year.

(3.) Of this amount, $52,781 41 is due to account "surplus income," and $89,134 34 is due to account "sinking fund." Against the balance ($380,305) the company hold property, not included in the cost of road and equipment, to the amount of $335,013 79, but which, sold as wanted, will bring a much larger sum.

(4.) This, and the other items, under "cost of road and equipment," as paid during the year, include all the outlays made in depots, Cloucester and Salisbury branches, though a portion of them, amounting to $320,864 46, were made in 1846, and so stated in the report of last year.

(5.) These statistics do not include the business of the Gloucester branch, as the results of that were credited to construction till the close of the year, the expenses having been deducted from, and not included in, the account, "expenditures of working the road," given in the report. In the same way, they have no reference to the business of the Essex railroad, which is operated by this company at cost, which cost also is not included, the expenditures being charged to the Essex railroad company.

(6.) This refers to passengers ticketed to stations on the Portland, Saco and Portsmouth railroad.

(7.) In regard to this, we estimate the average weight of a passenger train, not including passengers, at 50 tons, and merchandise trains at 90 tons; these sums, multiplied by the number of miles run respectively, give the result stated.

(8.) As before, this includes the cost on the main road and Marblehead branch only.

(9.) Mostly done by the track repairers and station men, without extra expense. The amount shown is all that has been charged extra.

(10.) Paid for renewal fund, $1,3000.

The amount of $33,344 88 has been appropriated and used from renewal for depreciations in renewing road, bridges, buildings, etc.

Accidents.—Fatal, none.

Not Fatal.—July 1st, One man hurt, attempting to jump on the cars after they had stater.

July 5, One man lying on the road lost an arm, the train going over it.

One man fell from platform of cars, and was somewhat injured.

All which is respectfully submitted.

D. A. Neal, John Hooper, Isaiah Breed, Daniel Adams, John Eliot Thayer.

(From the Philadelphia "Commercial List.")

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 3d inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	6,731 04	82,142 02
By Room Run	3,705 00	46,086 19
By Hazleton	3,086 00	34,225 00
By Beaver Meadow	2,993 03	27,363 08
By Spring Mountain	2,161 04	25,841 03
By Buck Mountain	2,681 12	27,066 06
By Cranberry Mines	864 00	2,610 00
White Haven	372 04	584 04
Total	22,589 07	245,919 02

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 6th inst., and since the 1st of January, has been as follows—

	Tons
From Schuylkill Haven	10,034 00
" Pottsville	3,757 19
" Port Carbon	7,508 08
" Port Clinton	2,638 17
Total this week	23,940 04
Total this year	604,950 18

The amount of coal brought to market by the Schuylkill canal during the week ending the 6th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	7,140 10
" Schuylkill Haven	2,866 18
" Port Clinton	441 03
Total this week	10,452 02
Total this year	163,215 02

Recapitulation.—Total Shipments this Season.

By Lehigh companies	245,919 02
By Reading railroad	604,950 18
By Schuylkill canal	163,215 02
Total	1,014,085 02

Wabash and Erie Canal.

First Annual Report of the Trustees.

Continued from page 442.

III.—THE CANAL LANDS.

This branch of the business has engrossed a large share of the attention of the trustees, since the property was vested in them by the State.

They are divided into three distinct and separate accounts:

1st. The lands for the canal east of Tippecanoe.

2d. The lands for the canal west of Tippecanoe.

3d. The lands in the Vincennes district—and the trustees find it necessary to keep up this distinction.

The lands east and west of Tippecanoe are subject to sale at the land office at Logansport, where the books and papers relating to them are deposited.

The accounts relating to this portion of the trust property, are quite complicated, from the manner in which they have been kept, and from the fact that there is outstanding a considerable amount of scrip issued for the construction of the canal east and west of Tippecanoe, and which by law is made receivable for lands, and which the trustees have continued to receive at par when the same has been tendered in payment.

They have not been able to arrive at a satisfactory account from the books and papers in the office, either as to the number of acres on hand unsold, belonging to the trust; or the amount due on outstanding certificates for lands heretofore entered; nor the exact amount of scrip outstanding on the 1st day of July, 1847, east and west of Tippecanoe.

The examinations thus far have shown a discrepancy between the accounts of the auditor of State and the accounts of the land office, which can only be corrected by a critical examination of the entire account from the beginning, and a comparison of the same, with the accounts in the office of the auditor at Indianapolis.

The trustees being held liable to account for all funds and property which shall come to their hands under the acts of the general assembly creating the trust, it is important to ascertain with precision the amount with which they will be chargeable at the commencement of the trust.

I.—THE LANDS EAST OF TIPPECANOE.

The auditor reports the amount due for lands sold east of Tippecanoe on the 1st day of July, 1847, at $314,473 51, of principal; and the number of acres of land remaining on hand unsold at the same date, at 3,893·50 acres. He also reports the amount of scrip outstanding on the 1st of July, 1847, east of Tippecanoe, to be $82,101 42. From this sum is to be deducted the sum of $17,493 91, including interest, which was paid into the treasury *prior* to 1st July, 1847, but not yet cancelled, leaving the sum of $67,000, or thereabouts, outstanding on the 1st day of July, 1847, and to be redeemed.

The trustees have received in scrip since the 1st day of July, 1847, east of Tippecanoe, the sum of $50,159 68, *including* interest, and $42,908 70 *exclusive* of interest, which amount they will return to the auditor of State to be cancelled according to law.

This sum being deducted from the amount reported to be outstanding on the 1st of July, 1847, as above, would leave a balance of about $24,091, at par, outstanding on the 1st day of December, 1847, the interest on which, when redeemed, estimating it at an average of $170 on the one thousand dollars, will amount to $4,100, making an aggregate of $28,191.

The trustees transmit herewith a statement exhibiting the total receipts by them since the 1st of July, 1847, on account of lands east of Tippecanoe, (including the sales of forfeited lands,) and also a statement exhibiting the lands sold east of Tippecanoe since the 1st day of July, 1847.

II.—THE LANDS WEST OF TIPPECANOE.

The auditor states the amount due from purchasers for lands sold *west* of Tippecanoe on the 1st of July, 1847, at $64,918 71, and the number of acres of land unsold at the same date to be 90,688·22 acres.

The amount of scrip outstanding west of Tippecanoe on the 1st of July, 1847, is stated by the auditor to be $83,330.

The trustees have received in scrip since the 1st of July, 1847, on account of lands west of Tippecanoe, the sum of $13,124 25, which will also be surrendered to the auditor of State to be cancelled according to law, leaving outstanding on the 1st day of Decem-

ber, 1847, according to the above statement, the sum of $70,195 75. Of the above amount, the sum of $12,581 83 was received on account of sales made *prior* to the 1st of July, 1847.

The trustees transmit herewith a statement exhibiting the sales of land made by them *since* the 1st day of July, 1847, west of Tippecanoe; together with the amount of money paid thereon.

From the examination already bestowed on the books and papers in the land office at Logansport, enough has been ascertained to satisfy the trustees that great irregularities have been committed in the transaction of the business by those entrusted with it, and considerable sums of money appear to have been paid by debtors into the office, which have not been reported to the auditor of State, nor credited on the books of the office.

By the 23d section of the supplemental act, the lands selected for the canal east and west of Tippecanoe, which were *classified* before the same were offered for sale, were required to be reappraised in the manner therein defined, by three appraisers, one of them to be appointed by the trustees and one by the governor, and the third to be chosen by the two thus appointed.

The trustees, in the month of July last, appointed R. N. Carnan, Esq., of Knox county, as appraiser, and the governor appointed Elias N. Shimer, Esq., of Marion county, and Francis King, Esq., of Wayne county, was appointed by them as the third.

It is understood that they have been engaged in the discharge of their duties, but the trustees have not received their report, and are therefore unable to state the result, and show its effect upon the trust.

III.—THE LANDS IN THE VINCENNES DISTRICT.

The trustees have established the office for the sale of these lands at Washington, in the county of Daviess, and the lands were brought into market and offered for sale at the earliest day at which it was possible to complete the preliminary and necessary arrangements therefor. The office was opened on the 6th day of September, 1847, at which date the sales commenced.

The schedules of the lands exhibiting the selections made by the State, and the classifications of the same agreeably to the provisions of the act, accompanied with the township maps, and the papers relating to the same, were obtained by the trustees and deposited by them in the office at Washington.

The number of acres in this grant embraced in the tract books of the trustees, is is 793,485·72, lying in twenty-three counties, and divided for sale into three classes; the first class being subject to sale at a price *not exceeding* $2 50 per acre, the second class not exceeding $2 per acre, and the third class at $1 25 per acre.

The trustees transmit herewith a tabular statement exhibiting the number of acres, the counties in which they are situate, and the classification as directed by law.

They also transmit herewith a statement showing the number of acres which have been sold, and the amount received therefor, up to the 1st day of December, 1847.

The sales have been made for cash, and the amount raised from this source is carried to a distinct account, and will be applied in accordance with the provisions of the act, to the construction of the canal south of Terre Haute.

The trustees also transmit herewith a copy of the regulations adopted by them for the establishment of pre-emption claims by settlers upon, and occupants of, any of these lands at the time the act took effect; and they trust that in the liberal construction which they have placed on the provisions of the law relating to it, the citizens of that section of country will find the evidence of their disposition to recognise in its fullest extent, their claims under the law.

From the above statement in regard to the canal lands, it appears that on the 1st day of July, 1847, there were 887,067·44 acres of land belonging to the canal fund, which were conveyed by the State under the deed to the trustees, viz:—Lands belonging to the canal west of Tippecanoe, according to the auditor's books, - - - 90,688·22
Lands east of Tippecanoe - 2,893·50
Lands in the Vincennes grant, 793,485·72
Acres, - - - 887,067·44

In addition to the above, the State is entitled to receive from the general government about 62,000 acres of lands which have been *heretofore selected* on account of the canal west of Tippecanoe, but which have not yet received the necessary confirmation of the government.

It is believed that this confirmation will not be longer withheld when it is understood how important it is to the State of Indiana, that the grants of congress which have been made expressly to aid in completing this chain of navigation between the lakes and the Ohio river, should be realized to their greatest extent, and at the earliest day practicable, to enable the trustees to complete the canal to the Ohio river within the time contemplated.

The trustees submit herewith a full account of their receipts and disbursements up to the 1st day of December, 1847, by which it will appear that they have received in the aggregate from all sources the sum of, $520,993 96
And have paid out the sum of..... 37,482 46
Leaving a balance on hand on the 1st day of December, 1847, of..... 483,511 50

Of which the sum of $400,695 62, is on deposit to the credit of the board of trustees of the Wabash and Erie canal, with the bank of the State of New York and the Ohio Life Insurance and Trust company in the city of New York, and by arrangement with those institutions, interest will be allowed on the deposits from the time they were made, at the rate of from 3½ to 4½ per cent. This interest will be passed to the credit of the board on the 1st of January next. The balance remains subject to the drafts of the trustees to meet the current expenses and disbursements on the line of the canal.

The trustees submit herewith, also, the subscription to the advance of $800,000, for completing the canal to Evansville, showing the names of the subscribers and the number of bonds subscribed by each, up to the 1st day of November, 1847, inclusive, amounting to $8,043,000, on which the 5 per cent. required to be paid at the time of subscription, has been paid as above, amounting to $407,150.

According to the plan adopted by the board for the prosecution of the work, it is not expected that they will have occasion to make any further call upon the subscribers until after the 1st day of January, 1849; and they have provided for the payment of the interest to the subscribers on the amount already paid by them, on the 1st day of January, 1848, at their office in New York.

The trustees also transmit herewith the proceedings of the subscribers' meeting, at which two of their number were appointed, exhibiting the proceedings of the bondholders, in accordance with the provisions of the law; the original document being on file in the office of the trustees.

The trustees also subjoin a statement exhibiting the names of the engineers, assistant engineers, superintendents, collectors, and clerks, appointed by them, with their respective salaries.

In the prosecution of the work on the canal south, the ensuing year, a larger force in the engineer corps will become necessary, and although the compensation fixed in every grade of the system adopted, is less than is allowed in other States, the board entertain the hope that it will enable them to secure permanently the services of such engineers as are fully competent.

They feel a just sense of their obligation in this as in other matters, to avoid extravagance, but it is a duty to the trust equally imperative upon them to avoid the other extreme, in a matter where so much depends, as upon the action of the engineer branch of the service Thus far the board have been eminently successful in obtaining those of established character and unquestioned qualifications.

Bonds to the amount of $9,009,000 of principal have been surrendered and exchanged for the new certificates.

The back interest on these bonds up to 1st January, 1847, amounts to $2,702,700, making the amount of principal and interest $11,711,700, for the one-half of which, viz: $5,855,850, certificates of canal stock, have been issued to the proper parties.

This amount will be increased by the surrender of the balance of the bonds outstanding, to $7,152,250, exclusive of interest since 1st January, 1847, on the principal, and exclusive also of the bondholder's subscription; and which sum being added to the above, will exhibit the probable amount of the canal debt on the 1st day of January, 1852, (principal and interest,) at $9,375,375.

As the proceeds of the canal lands and the tolls of the canal are to be applied to the construction of the canal until it is completed to Evansville on the Ohio river, it is presumed that the means derived from these sources up to the 1st day of January, 1852, will all be

required to accomplish the object; and it is not probable, therefore, that any interest will be paid on the certificates of canal stock (except on those issued for the subscription,) until after that date.

This large amount of debt is represented by certificates of stock issued to the individual parties to whom it is due, and who are scattered extensively over Europe and the United States; and an account is opened with each individual proprietor in books provided for that purpose by the trustees, and kept in their office in the city of New York, and which books will always exhibit the names of the parties having an interest in the trust, and the amount of such interest. The principal and interest of the entire canal debt are to be paid by the trustees out of the trust property in the manner prescribed in the acts of the general assembly, in the city of New York.

Besides the annual report which the trustees are required to make to the general assembly, they are to transmit to the bondholders a semi-annual statement showing the condition of all the property embraced in the trust at such time.

The trust springs out of an arrangement between the State of Indiana and her bondholders, relating to the adjustment of the public debt of the State, and it involves interests of the greatest magnitude and importance to both parties. A single glance at the nature and property of the trust—its public and its peculiar character—the large amount of indebtedness resting upon it for security—and the great number of persons affected by it, is sufficient to show the weighty responsibility resting on those who are entrusted with the management of it.

The trustees regard themselves equally agents of the State and her bondholders, and they are equally bound to discharge faithfully their duty to each, as defined in the acts creating the trust, and in the successful accomplishment of the objects of which they recognise a mutual and identical interest; and while the trustees are engaged in the prosecution and management of the canal, and the disposition of the property confided to them, in obedience to the acts of the general assembly, they are conscious that they may often come in conflict with local and selfish interests, and that they will need to be sustained by the forbearance and confidence of the public authorities and people of Indiana and the bondholders, for all whom they act.

While the records and books of the trustees will always be open to the inspection of the public authorities of the State, it is obvious that it is impossible in the nature of the case, (and indeed unnecessary,) that they should fully exhibit in a report, all the details of so complicated and extensive a business, with the reasons for their decision in each particular case. Their reliance must be on the considerate indulgence of all parties, with the assurance that they will bring to the decision of every question the most careful deliberation, and the result of their matured judgment; and they trust, that while it shall appear manifest, that their aim is to faithfully accomplish the great objects of the trust, to the mutual advantage of the State and her bondholders, that they will be fully supported in their action. All of which is respectfully submitted.

CHARLES BUTLER,
N. B. PALMER,
THOS. H. BLAKE,
} *Trustees, etc.*

Office of the Board of Trustees of the Wabash and Erie Canal.
Terre Haute, December 6th, 1847.

To be continued.

Railroad Troubles.

The grand jury of the Common Pleas of Grafton county, N. H., at their session in April, found a bill against the directors of the Connecticut and Passumpsic Rivers railroad, on a charge of having erected a nuisance on Connecticut river. The proceeding is stated to have been instituted at the instance of the Concord and Montreal railroad company, who, it is said, have just brought to a close a fruitless application to the Superior court of Grafton county, to enjoin the Passumpsic company from proceeding with its work.

Two directors of the latter company, Messrs. Low, of Bradford, and Keyes, of Newbury, have been arrested on the New Hampshire side of the Connecticut, and held to bail in $2,000 each. Mr. Keyes was placed in jail. The "Bradford Gazette" says of the difficulty:—"The assumption that New Hampshire has jurisdiction over all the creeks, bayous, coves, and eddies, of the Vermont shore, is absurd. Furthermore, all the encroachments made upon the river by the progress of the railway of the aforesaid company, have had a beneficial effect by straightening its current, and otherwise improving its navigability."—[*Boston Courier 15th May.*]

We clip the above from the Boston Courier of the 15th inst. The troubles in this case have arisen, as we understand, from some illiberality on the part of the Vermont legislature, or of the Passumpsic company in regard to permitting a junction with roads running out from the State of New Hampshire. The facts, we believe, are substantially as follows:—The Passumpsic and Connecticut River railroad, chartered by the Vermont legislature, is authorised to build a road extending from White river to the Canada line, and following the Connecticut and Passumpsic rivers. The boundary between New Hampshire and Vermont is the west bank of the Connecticut, and this river is therefore included within the limits of the former State. In the construction of their road, the Passumpsic company finding it to be of very great importance that they should have the power to fill up some of the eddies and bayous in that river, and occasionally encroach with their embankments upon its waters, applied to the New Hampshire legislature, at its session in 1846, that this power might be granted to them. Upon the hearing had on this application before a committee of the house, the subject of the restrictive nature of the company's charter in regard to New Hampshire railroads came up, and was examined into. This being deemed illiberal, a proposition was made that the power prayed for by the Passumpsic company should be granted them, provided they would procure an amendment to their charter, by which any railroad from New Hampshire should have the privilege of uniting with their road on just and liberal terms. Finally, the whole matter was postponed to the next legislature. At the session in 1847, the subject again coming up, an act was passed, authorizing the Passumpsic and Connecticut River railroad to cross the river into New Hampshire, and to build their road on its east bank, and thereby avoid the difficulties attending the construction on the west bank. To this act was attached a proviso, that all the New Hampshire railroads above the White River might, on the usual terms, unite with, and make use of, the road in the State of Vermont. The Passumpsic company did not think proper to accept the provision of the act under the limiting clause, but chose to go forward and incur the risk of exercising the power they had prayed for, without license being granted. Hence the troubles mentioned above.—[*Am. M. J. 24th May.*]

HUDSON RIVER RAILROAD COMPANY.
Notice for Proposals for Cast Iron Chairs.—Sealed proposals will be received by the Directors of the Hudson River Railroad Company, at their office, No. 54 Wall street, until the 15th day of July next, for one million pounds (equal to 500 tons) of Cast Iron Chairs. The proposition to specify the price per pound, or per ton, delivered on the line of said Railroad, at such wharf or wharves in common use as may be designated by the Chief Engineer in the employ of the said Company.

The Chairs to be cast from re-melted iron of a good quality, that will make smooth and tough castings. A sample of the castings may be seen at the office of the company in New York, and at the engineer's office in Poughkeepsie. It will be required that the Chairs, in all particulars, as to dimensions and quality of iron, be according to the pattern furnished, so as not to require chipping to receive the rails, nor allow the rails to set too loosly in the chair.

The Chairs to be delivered, one-third in the month of November next, one-third on the opening of the navigation of the Hudson next spring, and the balance by the 15th of April next.

The party to any proposition that may be accepted, will be required to enter into contract immediately after the acceptance of the same. The Directors reserve to themselves the right to accept or reject proposals that may be offered, as they may consider the interest of the company to require.

A. C. FLAGG, *President.*
JOHN B. JERVIS, *Chief Engineer.*
New York, June 14th, 1848. 4t26

PENNSYLVANIA RAILROAD COMPANY.
Notice is hereby given that the FOURTH INSTALMENT of **FIVE DOLLARS** per share on the Capital Stock of this Company, is required to be paid on or before the 1st day of July next.—The FIFTH INSTALMENT of **FIVE DOLLARS** per share, on or before the 1st day of September, and the SIXTH INSTALMENT of **FIVE DOLLARS** per share on or before the 1st day of November next, at the office, No. 70 WALNUT Street.

Payments will be received of one or more instalments, or the Stock may be paid in full at the option of the stockholders, and interest will be allowed from date of payment.

Instalments not paid punctually will be subject to the penalty of one per cent. per month, as required by law.

GEORGE V. BACON,
May 13—8t Treasurer.

RAILROAD IRON—500 TONS HEAVY H Pattern—to arrive. For sale by
DAVIS BROOKS & CO.
June 3. tf 68 Broad street, New York.

DIRECT ACTION ENGINES

FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,

AND ALSO

THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,

CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS.—NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive Locomotive Engine department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, *Slabbing*, *Plaining*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { Fairbanks & Co., 81 Water st. N. York.
A. B. Norris, 196 Market st., Philad.

April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

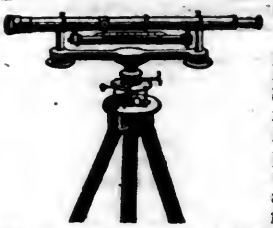
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

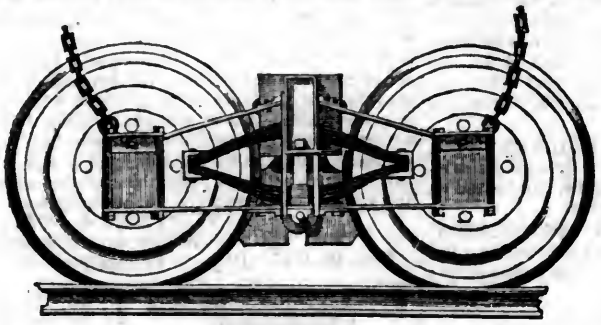
CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power.

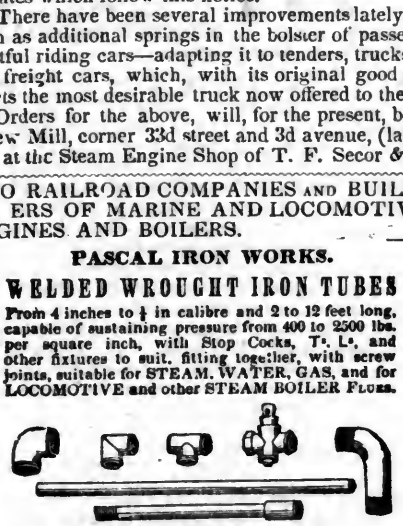
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TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street, Philadelphia, Pa.

y25

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

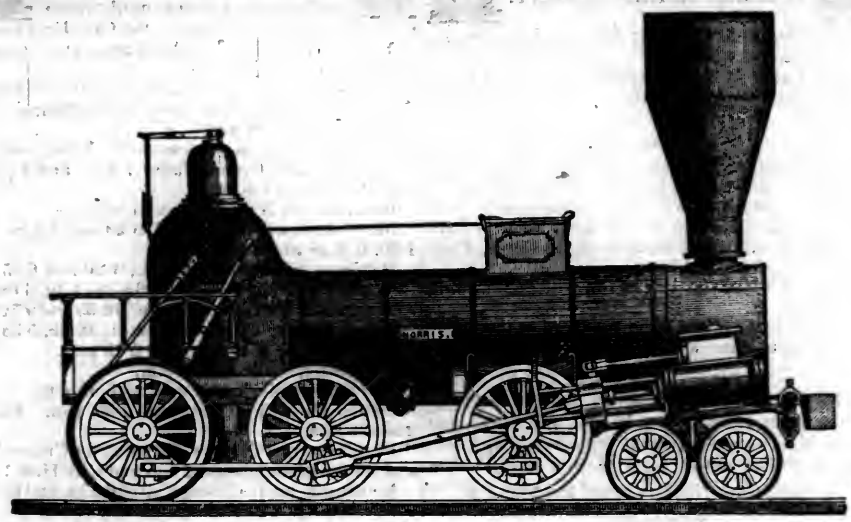
General Agent,

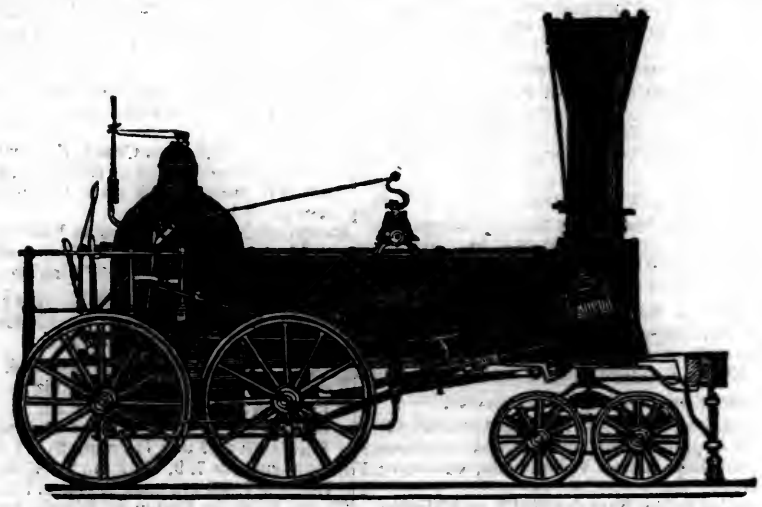
Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

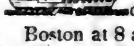
The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger



trains will leave daily, Sun-



days excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1v

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.




SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermediate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after




Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.




Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.

For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.

For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4½ p.m.

From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.

From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

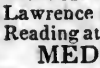
For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after




Monday, April 3, 1848, the Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, May 1st, 1848.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 10 a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Allyn's Point for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

321y S. H. P. LEE, Jr., Sup't.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1¼ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.

Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pitsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

Fare—From Cincinnati to Lebanon	$1 00
" " " Xenia	1 50
" " " Springfield	2 00
" " " Columbus	4 00
" " " Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

☞ The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*f*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER,
17 Burling Slip, New York.
1y10

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, near Third, below Walnut, Philadelphia.
1y10

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 30.] SATURDAY, JULY 22, 1848. [WHOLE No. 641, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, July 22, 1848.

Camden and Amboy Railroad Co.

To the Editor of the Railroad Journal:

Allow me to request a place in the Journal for another contribution to the American canal and railroad history, that you will, at some future time, as I hope, give to the public.

The managers of the Camden and Amboy company are the almost exclusive owners of the Trenton railroad. They are said to own five-sixths of it.—How it is used, I propose now to show.

When it is deemed expedient to evade the laws of New Jersey, it, as a Pennsylvania company, is put forward. Thus, the four dollar lines are run by the Trenton company, in violation of the law which fixes the fare at three dollars; and when any complaint is made, we are told that it is not the fault of New Jersey, that she has fixed her price, and that the additional dollar is taken under Pennsylvania laws. Such things have been said even on the floor of the Senate of the United States, by men who chose to shut their eyes to the fact that the monopoly granted by New Jersey, is the cause why roads cannot be made through Pennsylvania, to compete with the Trenton road.

When the managers wish to use their fellow stockholders, the Trenton company, of which they are owners, is again put forward. The business transacted by them, under the name of that company, must have exceeded six millions of dollars, yet all the information in regard to it furnished to the stockholders of the Camden and Amboy company might, so far as I can find, be written on my thumb nail. How it has been transacted, your readers may judge from the following facts. The amount received by the Trenton company, from January to December, of last year, a period of eleven months, cannot have been less—*exclusive* of the amount paid for the use of the road between New Brunswick and New York —than $600,000

and I am well satisfied that it was far more.

Of this, the Camden and Amboy company, which did all the work, and furnished all the steamboats, cars, engines, hands, fuel, etc., etc., was allowed to take 320,306

Leaving, as the share of the Trenton co., owned by the managers of the Camden and Amboy company, for the use of ten miles of naked road, without engines, cars, or machinery of any kind $279,694

This, you will say, is taking the lion's share, but even this is not all.

By the laws of Pennsylvania, a tax is imposed on dividends. That law is to be evaded, and now the New Jersey company is put forward. The dividend on the Trenton company's stock is 12 per cent; and to pay that, requires $120,000, all of which might be furnished out of the above mentioned enormous sum, even supposing it to be no more than is above assumed —and I am well satisfied it must have been *very far more*. It is necessary, however, to avoid, as far as possible, the payment of the State tax, and, in order that this may be done, the Trenton company, which receives the money, pays a part of it to the Camden and Amboy company, which the latter then divides among the stockholders of the former.—The whole thing will be readily understood by reading the following advertisement, which I cut from this day's paper.

OFFICE OF THE PHILADELPHIA AND TRENTON RAILROAD CO.—Philadelphia July 13th, 1848.—The Directors have this day declared a dividend of FOUR PER CENT. on the capital stock of this company for six months, and payable to the stockholders, or their legal representatives, on and after the — inst., at the company's office.

The Stockholders will also receive TWO PER CENT. for their interest in the Camden and Amboy Railroad and Transportation Company, at their office, on Walnut street wharf. [July 14, 2t]

S. MORRELL, Sec'y., Cashier.

The State is thus defrauded of its tax on $20,000, which would be, I believe, about $2,000. The same course having been pursued for many years, the loss to the State must have been very large, and equal, I imagine, to the tax upon $200,000, which would be $20,000, much of which might yet, I presume, be recovered by the State treasurer. It would be an important addition to the funds at his command.

We see from the above, that while the managers first retain nearly—and perhaps more than—one-half; contributing themselves to the joint concern nothing but ten miles of naked single track railroad, that half is increased by $40,000 per annum dividend among the stockholders of the Trenton Company, who are the managers of the road which furnish the dividend. The Camden and amboy company receives 320,306, *minus* 40,000, leaving for the use of all its machinery $280,306

The Trenton company receives 279,694, *plus* 40,000, giving it for the use of its ten miles of road 319,694

Can you wonder that they furnish no accounts? or can you avoid wondering why the stockholders of the Camden and Amboy company do not *insist* upon seeing all the accounts?

Before closing this, I would suggest to you to remark the fact that this advertisement of dividends is marked, *as it always is*, to be inserted but twice, whereas that of the Camden and Amboy company is *always* published six times. Were the former inserted more frequently, it might meet the eye of the treasurer.

A CITIZEN OF BURLINGTON.

Camden and Amboy Railroad.

Its Privileges and its Abuses.

The champion of this company, who writes over the signature "D.," for the ITEM, has, by our absence for a week, got the start of us—and we must therefore continue this subject in this number, in order to redeem our promise of re-publishing his articles in the Journal.

The following concise and *pithy* article of D, was published in the Item of 8th inst.—we give it entire, as follows, viz:

"*Camden and Amboy Railroad Co.*—MR. FITZGERALD.—Your correspondent 'K.' is very ingenious in his article, leaving no assailable point; though that indeed is not because he is armed in proof, but rather that his arguments are intangible—a shadowy sort of weapons, like those with which the doughty 'spirit of Loda' attacked the king of Morven. Indeed, the whole drift of my good natured opponent seems to be to prove, that, because other railroad lines are cheaper, so, also, should the Camden and Amboy railroad be.

"It is a good plea; but an equally good plea I may adduce, when I advert to the inviolability of contracts. If I purchase the patent right of any in-

vention for a certain locality, *exclusively*, (be it town, county or state) must not the law protect me in the enjoyment of that right? If I obtain the copyright of a book for 21 years, has another the right to pirate it? No matter if I charge *ten dollars* for the book, and another can afford it at *five*, yet he has no power to infringe my right. No matter if it is a book which is universally demanded, I have still a right to sell it for ten dollars to *all* who will buy it. I was the originator; I made a contract with the public, through their agents, the government, and I demand that the letter of the contract shall be adhered to *until the expiration of the term of contract.*

"Supposing that other railroad companies charge *less* for transportation? Supposing that the New York roads (as 'K.' says) have 'to compete with the cheapest inland or canal navigation in the world,' what arguments can he derive from these facts?—Did not the applicants for charters on these roads *agree* to such terms, and foresee such disadvantages? Did they not obtain as wide charters as they could, and will they allow those charters to be infringed?

"The principle is what I contend for. Render one one spicies of contract nugatory, and you make the whole law of contracts null and void. Let legal rights be once struck at, and the fabric of protection of which they are the foundation, will be wholly insecure.

"In regard to the. '*hardship*' which the travelling public is forced to endure under the charter of the Camden and Amboy railroad, I shall have a word to say in a future article; when I hope to advert in a becoming manner, to 'what the *many* complain of and the *few* depend.' D."

This goes the whole for abiding the law ,until its expiration—of course the writer will insist upon the companies keeping *within* the law, while he requires the people to abide by it—until the question of *illegal charges* is settled—and, if it should be decided in favor of the *people*—of those whom he has required to "walk up to the captain's office and *settle*"—at the rates demanded, he will of course insist that ample restitution shall be made to those who have overpaid.

Our object, however, is not to inflict a penalty—but to remove the oppression complained of. We desire to see the managers of this company adopt a course which shall—by giving to the thousands, "the *greatest possible amount of accommodation*, for the *least possible amount* of money" from each individual—give the highest rates of return to those who own the road.

It is not that we desire to reduce the dividends of a company—when they are *legitimately* earned—but would much rather see them increase annually—when the increase is the *result* of a system of management, calculated to extend, or increase, the accommodation to the travelling and business community.

We can cite a case in Great Britain, where a short road, of less than *ten* miles in length—which cost £59,000, or near 300,000 dollars per mile—from a city to a village, or small town, on the sea shore—paid a dividend of 8 and 9, and *one* year, 10 per ct. to the stockholders, after the directors had adopted, and pursued, a system of *low fares, frequent trains, and high speed*—which induced every body, *not only* to *ride*, but to *ride often*—and not only so, but it enabled the *poor people* of the *city* to have *cottages*, and *gardens*, and a *cow*, and a *pig*, out of the filth, and turmoil, and vice, of a large city; and at the same time to attend to their regular avocations, during the day, *in* the city. So might this company, if they would adopt a proper system, raise up a continuous village from Camden to Burlington, and even beyond, in New Jersey; and from this city to Bristol, on this side of the river—and thus ensure, at all times, a large number of *way* passengers. They might also enable *thousands* upon *thousands*, every year, of the people in the cities of New York and Philadelphia, to take an excursion from one city to the other, and thus keep up a social intercourse, which is now entirely interdicted, between the people of limited means, and at the same time increase the earnings, and dividends, and—what is also worth having, even to this rich and overshaddowing company—secure the cordial and kind feeling of a powerful and growing community. The time may come, when they will want it—it is *sure* to come, when they will *need* it.

If we understand the argument of the company, in relation to the rates of freight—8 cents per ton per mile—it is that this applies only to the 61 miles of *road*, between Camden and Amboy, leaving them at liberty to charge what they please from Amboy to New York, 29 miles. There might be some *plausibility*—if not propriety—in this, if other people, and other steamboats, were allowed to compete with them in delivering goods at, and taking them from, Amboy—which is not the case, if we are correctly informed—the company owning the landing, at which a rival line would not be allowed to compete for the business. If this is so, then there is neither justice nor equity in the argument—nor *truth* in the assertion, that such was the *intent* of the clause in the charter dated February 4, 1830, fixing the *rate* of freigh. That says,—the "company are hereby authorised to demand, and receive, such sum, or sums of money, for tolls and the transportation of persons, and every species of property whatsoever thereon, as they shall, from time to time, think reasonable and proper;—*Provided*, that they shall not charge more than at the rate of *eight cents* per ton per mile, for the transportation of every species of property, nor more than *ten cents* per mile for carrying each passenger"—without saying that it was designed to cover the distance between the twocities. We however find the two points, between which this company was authorised, and *designed* to act, specified in a supplemental act, dated Feb. 15, 1831—*consolidating* the canal and railroad companies—which says, "*it shall not be lawful for the said companies to charge more than three dollars for the transportation of passengers to and from the cities of New York and Philadelphia.*"

This relates and applies specially to the same companies as the first above extract, which fixes "8 *cts. per ton per mile*" as the highest rate to be charged for goods; and it is upon this *omission*, of the two points—when fixing the highest rate of freight, that the company has for many years pursued a course of oppression upon the business community, which is now raising a storm, which will be likely to test their strength, and ability to sustain their existence as a company, and prevent the people of New Jersey, and the whole country, from having other accommodations than such as they choose to accord them.

We take the ground that the legislature of New Jersey have no right to *tax us ten cents* for passing over their soil. If they have a right to take a *dime*, so have they a right to take a *dollar*—or *an hundred dollars*, which would be equivalent to a prohibition. Nor can they, constitutionally, tax my goods, that I send from New York to Philadelphia. Nor can they, without doing me great wrong, farm out to an individual, or to a company, the *exclusive* privilege of carrying *passengers* and *goods* over their territory—unless they restrict that individual, or company, from demanding and collecting extortionate rates from those who are *compelled* to employ them. If they do grant exclusive privileges, and fix rates and rules to govern their agents, they are at least bound to see that the weak, and the poor, are protected from extortionate charges, or, *at least*, that no more than *legal* and *authorised* extortions be practised.

Way charges between Philadelphia and New York:

Philadelphia to Trenton,	30 miles,	75c. or 2·5c.	p. m.
Trenton to N. Brunswick,	28 "	75c. or 2·68	"
N. Brunswick to N. York,	32 "	75c. or 2·34	"
	90 "	$2·25	

A very reasonable rate; but as *way* fares are always—or *usually*—higher than through fares, it brings the through fare to the even and convenient sum of Two Dollars—*as it should, and must be.*

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 10th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	7,378 12	69,520 14
By Room Run	3,427 04	49,514 03
By Hazleton	2,675 00	36,900 00
By Beaver Meadow	2,301 12	29,664 00
By Spring Mountain	1,577 13	27,418 16
By Buck Mountain	2,011 13	29,077 19
By Cranberry Mines	769 00	3,379 00
White Haven	509 11	1,093 15
Total	20,650 05	266,568 07

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 13th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	14,882 09
" Pottsville	5,679 12
" Port Carbon	10,856 19
" Port Clinton	3,690 09
Total this week	35,109 09
Total this year	640,060 07

The amount of coal brought to market by the Schuylkill canal during the week ending the 13th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	9,747 02
" Schuylkill Haven	3,384 15
" Port Clinton	481 10
Total this week	13,613 07
Total this year	176,828 09

Recapitulation.—Total Shipments this Season.

By Lehigh companies	266,568 07
By Reading railroad	640,060 07
By Schuylkill canal	176,828 09
Total	1,083,457 03

Low Fares--Effects of on Travel.

Seven of the New England railroads, terminating in Boston—the aggregate length of which, including branches, is only 370¼ miles, viz:

The Boston and Lowell	27¼	miles.
" Maine	82¼	"
" Providence	47¼	"
" Worcester	58¼	"
" Fitchburg	51¼	"
" Old Colony	44¼	"
" Eastern	58	"

passing through a territory tributary to them, containing a population of 650,370— carried, during the year 1847, *four millions seventy-five thousand* passengers, who paid an *average* of only 41¼ cents each.—Thus it will be seen that these roads carried over *six and a quarter* times the entire population residing in the counties through which the roads pass, and to which they reach.

When the *Lowell*, the *Worcester*, and the *Providence* roads were in course of construction, it was

estimated, by their *sanguine* friends, after mature investigation, that the *three* roads would, when completed, carry, *annually*, 141,440 passengers, or about 45,000 each—while others, not as *visionary*, doubted, many even ridiculed the estimate as preposterous—whereas that number is less than *one-eleventh* of the number actually carried by them in 1847—the 12th year from their completion.

The question will naturally be asked, how has this wonderful increase been brought about?—the reply is they have devised ways and means to *induce* travel—they have reduced their fares—run their trains to accommodate the people and their business, and the result is that *one-fifth*, or nearly that proportion, of the business men of Boston live in the country, along the different lines of railroad; and so would it be with Philadelphia and New York, if the *railroad companies* would imitate the management of the Boston railroads—and then it would be that the New Jersey railroads, with a population—including the two cities—nearly *double* that of the seven Boston roads, would make larger returns to their shareholders upon *half* their present charges—and every department of business would be benefitted by cheap facilities.

Railroad Freight and Fares on Sixty-eight Railroads.

The frequent inquiries in relation to the rates of fare and freight on the American railroads, induces us to re-publish, with some corrections, the statement published by us in No. 6—or February 6—of the current volume. It will be found exceedingly convenient for merchants and others, and we shall print a few extra copies.

Eastern railroad, Boston to Portland, 105 miles—freights on groceries, grain, iron, butter and drygoods, $3 55 through, or 3·4 cts. per mile; light and bulky articles, $5 through, or 4·76 cts. per ton per mile; fare, $3 through, or 2 85 cts per mile.

Boston and Maine road, Boston to South Berwick, 72 miles—freight, salt, sugar, groceries, iron, and coal, $1 76, or 2·14 per ton per mile; light and bulky articles, $2 88, or 3·5 per ton per mile; one horse, $3 62: two do., $5 43: one horse carriage, $2 71: two do. do., $3 62: four do. do., $5 43; fare, $1 62 through, or 2·25 per mile.

Lowell railroad, 26 miles—merchandize generally, $1 25 per 2,000 lbs.; by cargo through, 1 10; passenger fare, 56 cts., or 2·15 cts. per mile.

Nashua and Lowell, 15 miles—freight generally $1 per ton; horses, $1: two horse coaches, $1; passenger fare 40 cts. or 2·66 cts. per mile.

Concord road, Nashua to Concord, 34 miles—freight is divided into 1st and 2d class, and is charged about 4 cts. and 3½ cts. per ton per mile, or $3 and 2 50 through to Boston, 75 miles, and lumbet 75 cts. per 1000, and hard wood 2 75 per cord pine wood $2 25, through; horses, one, $3 25: two or more at $2 50 each: two horse carriage, $2 50; fare 80 cts., or 2·35 per mile.

Worcester railroad, 44 miles—coal, iron, lumber, etc., 4 cents; heavy merchandise, such as sugar, salt, butter, etc., about 6 cts.; groceries and drygoods, 6 to 8 cts.; light and bulky merchandise, 6 to 10 cts. per ton per mile; passenger fare, $1 25, or 2·8 cts. per mile.

Boston and Providence railroad, 42 miles—coal, iron, grain, and merchandise generally, from 5 to 7½ cts. per ton per mile; horses, $4: carriages, 3 to $4; passenger fare, $1 25, or 2·97 cts. per mile.

Stonington road, from Providence to Stonington, 47½ miles—corn, grain, iron, coal, sugar, salt, and dry lumber $2; butter, dry doods, and bulky articles $2 80 per ton; one horse, $3: stage coach, or large carriage, 6½ cts. per mile; fare, $1 50, or 3·1 cts. per mile.

Boston and New York, via Providence and Stonington, 216 miles—freight measurement goods, 7 cts. per cubic foot; by weight, 30 cts. per 100 pounds; passenger fare, $5, or 2·3 per mile.

Boston to New York, via Fall River, 223 miles—freight 7 cents per cubic foot, and 30 cts. per 100 lbs.; passenger fare 5, or 2·24 cts. per mile.

Fall River railroad, 53 miles—coal, iron and grain, $2, and sugar, salt, groceries, butter and drygoods $2 50 per ton; light and bulky articles, charged by measurement, 140 cubic feet to the ton; passenger fare $1 35, or 2·54 per mile.

Boston and New York, (via Norwich)—freight as on the other through lines; fare through $5—and a passenger wishes to stop over a day on the way, he can do so by applying to the agent in N. York or Boston.

Norwich and Worcester road, 60 miles—we have not got the rates of freight; fare $1 50, or 2·5 cts. per mile.

Old Colony road, Boston to Plymouth, 37 miles—freight generally 4½ cts. per ton per mile; ligh and bulky articles, 140 ft. to the ton; passenger fare $1, or 2·66 cts per mile.

Connecticut River road, from Springfield to Greenfield, 36 miles—freight, iron, coal, manure, lumber, grain, sugar, butter, and salt, $2; dry goods and groceries $2 40 per ton through; fare $1 10 or 3 cts. per mile.

Providence and Worcester road 43½ miles—freight, groceries, dry goods, grain sugar, salt, butter, iron, coal, manure, and lumber, $3 for 2000 lbs.; bulky articles 15 cts. per 100 lbs. through; fares, 1st class $1 25, 2d class 85 cts., or 2·84 and 1·9 cts. per mile.

Boston and Fitchburgh, Boston to Fitchburgh, 50 miles—freight, all heavy articles, as butter, salt, sugar, groceries, and drygoods, through per ton, $2, or 4 cts. per ton per mile; light and bulky, 4 cts. per ton of 150 cubic feet per mile; horses, at 1 ton each—or 4 cts per mile or $2 each; carriages, 1 horse, $1: 2 horse, $2, each through; fare, through, $1 25, or 2·5 cts. per mile.

Western railroad, Worcester to Albany, 156 miles—freight, sugar, salt, butter, grain, iron, coal, lumber and groceries, $4 per ton of 2000 lbs., or 2·56 per ton per mile; drygoods, and bulky articles, $7 per ton of 2000 lbs. through, or 4·44 per ton per mile; one horse $10 50: two horses, $12 25; three horses, $14, at the risk of the owners; one horse carriage through $12,25: two horse carriage 15 75; stage coach, or omnibus 28 00, at the risk of the company; fare through, $4 25, or 2·72 cts. per mile. The fare through from Boston to Albany, is, we believe, $5, or 2·5 cts. per mile.

New Haven and Springfield railroad, 62 miles—coal, iron, manure, lumber, sugar, salt, etc., $2 60, or 4·2 cts. per ton per mile; groceries and drygoods, 3 50; grain, 5 20 per ton; passenger fare, 1 87, or 3 cts. per mile.

Bridgeport, 98 miles—coal, iron and marble, 3 per ton; sugar, salt, butter, 3 20; drygoods, 4; grain, 7 cts. per bush., through; horses and cattle, 3 50 each: two horse carriage, 5 25; passenger fare, $2, or 2·04 cts. per mile.

New York and Harlem railroad, 53 miles—coal, $2 per ton; iron, sugar, etc., 18 cts. per 100 pounds; heavy merchandise, 3 50, and light $4 per ton; lumber, 3 50 per 1000 ft.; horses and cattle, 3 50 each; passenger fare, $1, or 1·88 cts. per mile.

New York and Erie railroad, New York to Port Jervis, 100 miles—25 miles by steamboat—freight to Otisville, 87 miles, coal $2 20, iron 42; heavy articles, such as grain, sugar, salt, butter, etc. etc. 3 50 to $4; groceries, $4 50; one horse carriage $3: *two* horse 4 50. We are not able now to give the rates charged upon *milk, fruits, vegetables*, etc. on this line, but they are exceedingly low, and *morning* and *evening* trains are run *expressly* for such freight. We have not obtained the rates for the current year, since the road was opened to Port Jervis.

Patterson road, 16½ miles—freights average about $2 50 per ton, delivered by the company; fare 50 cts., or 3 cts. per mile.

Morris and Essex road, 32½ miles—freight, coal, iron, and manure, $2 25 per ton; corn and grain 8½ cts. per bushel; lumber 3 per 1000 ft.; flour 25 cents per barrel; fare $1, or 3 cts. per mile.

New York to Philadelphia, *via New Brunswick and Trenton*, 90 miles.—This lines is owned by *three* distinct companies—and managed by *two*. The *through* fare is $4, or 4·44 cents per mile—while the *way* fare, or *from place to place*, is only 2 25—or 2·5 cents per mile, as follows: from New York to New Brunswick, 31 miles, 75 cts—from thence to S. Trenton, 29 miles, 75 cts., and from thence to Philadelphia, 30 miles, 75 cts! This is what the peoplo of those places pay, and what others pay, if they *wait over, at each place, for the next train*—but if they pay *through*, from either end, it is $4. Yet, *many have*, and *more will*, probably, hereafter pay *three times*, or from place to place and go directly through, by the same train, for 2 25 to 2 75—while the stranger, or *uninitiated*, pay four dollars in the same car—or they *may* do so if they will. This line carries *little* through freight.

New York to Philadelphia, *via Camden and Amboy*, 88 miles.—This line is owned by one company, and is partly by railroad and partly by steamboats—the fare through is $3, or 3·4 cents per mile.—Freight, *legal* rates, fixed in their charter, 8 *cents per ton per mile*—or 32 cents per 100 lbs.—or 7 20 *per ton*, through. The company have, however, exacted various prices, from 30 cents to 1 00 per 100 lbs.—or from 7 00 to 22 40 per ton.

☞ The company, we understand, undertake to *evade* the restriction, by considering it as only applicable to the *railroad portion* of the line, 61 miles—leaving them at liberty to charge just what they please, on their *steamboats* for the 27 miles from Amboy to New York. Their legal rates are nearly double those charged by most other railroadi in the country; and their charges from Amboy to New York, *by water*, are *double to five times their* railroad charges—or from *five* to *fifteen* times as much as on any other line of boats leaving the New York waters.

Reading railroad, 92 miles—coal, $1 50 for 2000 lbs; bituminous coal, iron ore, 2 10; pig iron and timber, 2 50; bar iron, flour, grain, fish and tobacco, 2 90; groceries and hardware, 4 25; drygoods and furniture, 5 25; one horse 6, and carriage per agreement; passenger fare, $3 50, or 3·8 cts. per mile.

Philadelphia and Columbia road, 82 miles—the freighting is done by private individuals at about 25 cts. per 100 lbs.; Passenger fare $2 88, or 3·5 cts. per mile.

Lancaster and Harrisburg, 36 miles—passenger fares $1 50, or 4·1 cts. per mile.

Harrisburg and Chambersburg, 56 miles—coal, iron, manure, 1 50; lumber, corn, grain, 1 78; sugar, salt, butter, groceries, drygoods, 2 per ton through; passenger fare, $2 12, or 3·78 cts. per mile.

Philadelphia, Wilmington, and Baltimore, 97 miles—freight 50 cts. per 100 lbs. through; passengers $3, or 3·1 cts. per mile. This road carries very little through freight.

Baltimore and Susquehannah, 71 miles—coal, 1 37½; iron, 1 84; corn and grain, 2 20; salt and butter, 2; groceries, sugar and drygoods, $2 50 per ton through; horses $3 75, and four wheeled carriage 3 37 each; passenger fare, $2 12, or 3 cents per mile.

Baltimore and Ohio, 179 miles—coal, 2 75; iron, in open cars, $3 50; coffee, 25, drygoods 35 cts. per 100 lbs. through; passenger fare, $7, or 3·91 c. per mile.

Baltimore and Washington, 40 miles—coal, iron and grain, 4 cts. per ton per mile; sugar, butter, salt, drygoods, light and bulky merchandise, 2 30 per ton through; horse, or *horse and wagon*, 5 75; passenger fare, $1 80, or 4·5 cts. per mile.

Winchester and Potomac, 32 miles—coal $1, iron 1 75 per ton; flour 18 cts. per bbl.; grain 10½ per 100; sugar, dry goods, and light bulky articles 14 cts. per 100 lbs.; horses 2 50 each, four wheel carriages 4 50 to $7 50; fare $2, or 6·25 cts. per mile.

Louisa road, 50 miles—iron $1 66; lumber $3 per 1000; corn and grain 14 cts. per 100; sugar, salt, butter 20 cts., and dry goods 22 cts. per 100 lbs.; horses 4 66; four wheel carriages 4 50 each; light articles $4 per ton; fare $2 50, or 5 cts. per mile.

Richmond, Va., to Washington City, 133 miles—iron, 2 cents per ton per mile; sugar, salt, butter, groceries and drygoods, ¼ ct. per cwt. per mile; bulky articles, 8 cts. per cubic foot to Fredericksburg; horses 6 cts. per mile; four wheel carriages 11 cents per mile; passenger fare, $5 50, or 4·13 per mile.

Richmond and Petersburg, 22½ miles—sugar, salt, butter, ¼ ct. per 100 lbs. per mile; groceries and drygoods, ¾ ct. per 100 lbs. per mile; passenger fare, $1, or 4·34 cts. per mile.

Petersburgh to Welden, 63 miles—lumber, $5 per 1000 feet; corn and grain, 6½ to 8½ cts. per bush; salt, sugar and butter, 25 cts. per 100 lbs.; horses and carriages $3 each through; passenger fare, $3, or 4·76 cts. per mile; second class, 1 50, or 2·38 cts. per mile.

Gaston and Raleigh, 87 miles—lumber, $7 per M; corn and grain, 10 cts. per bushel; sugar, salt and butter, 35 cts.; groceries, 55 cts. per 100 lbs.; light and bulky articles, 10 cts. per cubic foot; horses 4 20; carriages 7 to 8 50: passenger fare, $4, or 4·6 cts per mile.

Wilmington and Welden, 161¼ miles—corn and grain, 10 cts. per bush. for 80 miles, 12 cts. thro': sugar, salt and butter, 38 cts., and drygoods, 80c. per 100 lbs., through; horses 8: carriages $10 through; passenger fares, $6 50, or 4 cents per mile.

South Carolina, 136 miles—iron, 25 c. per 100 lbs.; corn and grain, 7 cts. per bushel; sugar, salt, butter, 25 cts. per 100 lbs.; light bulky merchandise, 8 cents per cubic foot, through; horses each 8: 4 wheel carriages 10 through; passenger fare, 1st class, $6 75, or 4·96 cts. per mile.

Columbia, 68 miles—coal, iron and manure, 25 cts. per 100 lbs.; corn and grain, 7 cts. per bush.; sugar, salt and butter, 25 cts.; drygoods, 45 cts. per 100 lbs.; light bulky merchandise, 8 cts. per c. ft. through; horses 8 each: four wheel carriages 10; two wheel carriages 6, through; passenger fare, $3 38, or 4·97 cents per mile.

Georgia, 171 miles—iron, 15 cts. per 100; corn and grain, 8 cts. per bushel; sugar, salt and butter, 30 cts., drygoods 60 cts. per 100; light bulky articles 10 cts. per cubic foot through; horses 8; 4 wheel carriages 10: passenger fare, $7, or 4·09 cts. per mile.

Western and Atlantic, 100 miles—iron, 15 cts., sugar, salt and butter, 25 cts.; drygoods, 40 cts. per 100 lbs.; grain, 8 cts. per bush.; bulky merchandise, 8 cts. per cub. foot through; horses 5: two wheel carriages 3; 4 wheel 6; passenger fare $5, or 5 cts. per mile.

Central, 191 miles—iron, 30 cents; salt, sugar and butter, 40 cts. per 100 lbs.; corn, 12 cts. per bushel: light bulky articles, 13 c. per c. ft. through; one horse 10; four, or more, at 5 each; 4 wheel carriage 10; passenger fare, $7, or 3·65 cts. per mile.

Macon and Western, 101 miles—iron, sugar, salt and butter, 25 cts., drygoods, 44 cts. per 100 lbs.; grain, 8 cts. per bushel; light bulky merchandise, 9 cts. per cub. ft. through; one horse 8; four at 4 each; four wheel carriage $8; passenger fare, $4, or 3·96 cts per mile.

Montgomery and West Point, 67 miles—barrels whiskey, etc, 60 cts.; dry barrels, 55 cts.; bulky merchandise 8 cts per cubic foot; cotton 95 cents per bale of 500 lbs; passenger fare, $3, or 4·47 cts. per mile.

Vicksburg and Jackson, 46 miles—sugar, coal, iron and manure, 40 cts. per 100 lbs.; salt, 60 cts. per sack; corn and grain, 10 cents per bushel; drygoods, 8 cts. per cubic foot; cotton, 87½ cts. per bale of 400 lbs.; horses and carriages 12 cts. per mile each; passenger fare, $3, or 6·38 cents per mile.

West Felicianna road, 21 miles—freight, merchandise, provisions, etc., 50 cts. per 100 lbs. through; passenger fare 75 cts., or 3·1 cts. per mile.

Lexington and Ohio, 28 miles—coal, corn and grain, 5 cts. per bushel; iron, sugar, salt, butter, groceries and drygoods, light and bulky merchandise, hemp, bagging and rope, 12½ cts. per 100 pounds; horses $2 each; carriages 2 to $3 each; passenger fare, $1 25, or 4·46 cts. per mile.

Madison and Indianapolis railroad, 86 miles—coal, and wheat 9 cts.; corn 8 cts.; oats 7 cts.; flour 35 cts.; pork, lard and salt 50 cts. per bbl.; iron $5 per ton; groceries, drygoods, and light and bulky articles, 35 cts. per 100 lbs.; specie, $1 per 1000; *live hogs*, 50 cts. through; horses 1 50 each; or $1 with a passenger; passenger fare, $2 50, or 2·9 per mile.

Little Miami, 84 miles—coal, iron, sugar, salt, butter, groceries and drygoods, $3 20 per ton; corn and grain, 7 cts. per bushel: light and bulky articles, $4 per ton through; horses 4 cts. each per mile, carriages the same; passenger fare, $2, or 2·38 cts. per mile.

Mad River, 102 miles—coal, iron and manures, 5 per ton; corn, 11 cts., wheat, 12½ cts. per bushel; flour, 45 cts. per bbl.; sugar, salt and butter, 32 cts., and bulky articles, 42 cts. per 100 lbs.; carriages by weight, and horses by agreement; passenger fares, $3 50, or 3·18 cts per mile.

Mansfield and Sandusky, 56 miles—iron, coal and manure, $1 60 per ton; corn, 6 cts., wheat 7 cts. per bushel; sugar, salt and butter, 2 dolls., drygoods, 2 50, bulky and light articles, 3 dolls. per ton through; horses and carrriages each 4 cts. per mile; passenger fares, $1 50, or 2·67 cents per mile.

Michigan Central, 146 miles—iron, manure, coal, corn, grain, groceries, 39 cts. per 100; salt, butter, beef, pork, fish and sugar, $1, flour, 66 cts., whiskey, beer and cider, $1 10, per barrel; corn and grain, 39, wheat, 33 cts. per 100 through; carriages 45 cts. per 100 lbs.; horses 2 35; hogs and calves 1 64; sheep 1 10 each; passenger fares, $4 40, or 3 cts. per mile.

Southern Michigan, 70 miles—manure and iron, 24 cts., sugar and butter, 34 cts., per 100; corn and grain, 11 cts. per bushel; flour, 40 cts. per barrel; salt, 34 cts. per barrel through; passenger fares, $2, or 2·85 cts. per mile.

Albany and Schenectady, 17 miles—iron, coal and manure, $1 per ton; sugar, salt, groceries, butter, drygoods and bulky articles, 1 25 per ton; horses 2, carriages 1 to 2 each; passenger fare, 50 cts., or 2·94 cts per mile.

Troy and Schenectady, 20½ miles—rates same as on Albany and Schenectady; passenger fare, 50 cts., or 2·43 cts. per mile.

Utica and Schenectady, 78 miles—*prohibited* from carrying freight, except when the canal is closed, and then canal tolls are added to the ordinary freight charges; passenger fare, $3, or 3·84 cts. per mile.

This line, in connection with the other lines from Albany to Buffalo, run a train at 1½ cents a mile for emigrants.

Utica and Syracuse, 53 miles—same as Utica and Schenectady road; passenger fare, $2, or 3·77 cts. per mile.

Syracuse and Auburn, 26 miles—coal, iron and manure, 8 cts., sugar, salt, groceries, butter and drygoods, 10 cts., and bulky merchandise, 20 cts. per 100 lbs; horses, 1; carriages 1 to 1 50 each; passenger fare, $1, or 3·84 cts. per mile.

Auburn and Rochester, 77 miles—corn and grain, 27 cts., sugar, salt, butter, groceries and drygoods, 20 cts., light and bulky articles, 30 cts. per 100 lbs.; horses 3; carriages 5 to 7, according to size; passenger fare, $3, or 3·89 cts. per mile.

Rochester and Attica, 44 miles—coal, iron and manure, ½ ct. per ton. grain, 1-5 ct. per bushel; butter, salt and sugar, 2-5 ct. per 100; groceries and drygoods, 4½ mills per 100; bulky and light articles, 5 mills—*all per mile;* horses and carriages 6½ cents per mile each; passenger fare, $1 56, or 3·54 cts. per mile.

Attica and Buffalo, 31½ miles—corn and grain, 3 cts. per bushel; butter and sugar, 12 cts. per 100 through; passenger fare, 94 cts., or 2·98 cts. per mile.

Buffalo and Niagara Falls, 22 miles—freight, 10 to 12 cts. per 100 lbs.; passenger fare, 75 cts., or 3·4 cts. per mile.

Lockport and Niagara Falls, 24 miles—passenger fare, 75 cts., or 3·12 cts. per mile.

Harlem Railroad.

This road, about eight miles long, was one of the earliest chartered by the New York legislature. It was at first only designed as a medium, or a means, of enhancing the value of property in the upper part of the city, and at Harlem. From Harlem, northward, another road was chartered to Albany, called the New York and Albany railroad; the two were to open an easy winter communication between the commercial and the political capital of the State. The stock of the Harlem road was readily subscribed—indeed there was a *rush* for it—and it rose very much above par—and the work was commenced with spirit, and pushed on with vigor; but from the peculiar formation of the ground, and the character of the rock, it was a very costly enterprise—averaging, for the *eight* miles, 104,375 dollars *per mile*, and the stock fell to a very low figure—as low, at one time, as ten dollars a share. If we recollect correct-

ly, the amount of *stock* authorised by the original charter, was only 500,000 dollars; but by subsequent legislation, the stock has been increased from time to time, and authority was granted to extend the road into Westchester county; and, finally, some of the parties interested, purchased the charter of the New York and Albany railroad—and thus removed one great difficulty in the way of their extension to Albany.

For many years this company was managed by men engaged in, and apparently for the benefit of, their stock operations. There was more money to be made, many seemed to think, by buying and selling the stock, either on commission, or on their own account, than by *completing* the road, and making it pay a dividend; and hence those who desired to invest their capital in a safe and profitable manner, always gave this company a wide berth—which accounts for the present unfinished state of the road, after so many years of delay.

The changes in the management have been so numerous during the past *ten* years, that it is difficult to enumerate them; there has, however, been a steady, though gradual, extension of the road, until the cars now run 53 miles, to Croton Falls—and another section, of 29 miles, to Dover planes, in Dutchess county, is nearly graded; and it is, we understand, the intention of the company to have this section completed, ready for the cars, by the 1st of January next.

This was a *legitimate* New York enterprise—a work in which the *people* of New York should have engaged *early*—as did the people of Boston, in a work from their city to Worcester, in the direction of the Hudson river, and New York canals. It was the *only* line—except a line possibly to New Haven and Boston—not *then*, however, *dreamed* of—which could terminate in the heart of the city, without crossing a broad river. It was then the only line thought of, by which an easy communication could be opened between the two capitals of the State, and by which a winter trade could be kept up between the city and the interior—a trade, however, *then* but little understood—though it amounted, last winter, from 1st December to 1st April, four months, over the road from Albany to Boston, to 362,128 dollars—or very nearly 3,000 dollars per day for tolls—and therefore the people of New York ought to have built this line, and had it in operation, *more than ten* years ago; as its influences upon them, their business, and their property, would have been more than its cost, over and above its earnings and dividends, which could not have been less than from six to ten per cent. per annum, from the date of its completion. *They*, however, *knew too much*, to be *caught* in that way; and, consequently, the *less wise* people of Boston constructed a road by which New York has been *relieved* from a large amount of business during the winter months. And again, when there was a fair prospect that this line would, after all, be carried through—*another* line is projected, surveyed, and *commenced*, with a vigor, and upon a plan, which astonishes the many who have stood with their *arms folded* for years, because they thought it an *unsafe* investment to take stock in a road which must compete, a part of the year, with the Hudson river steamboats! Yet, notwithstanding their new rival—which must *also* rival the steam palaces on the river—we look forward to the extension of this road, until it, at least, reaches the Western road—thus opening a communication with Albany, and at the same time connect with other roads reaching up into the western part of Vermont; by which the people of that region will have a choice of markets, either Boston, Albany, or New York direct.

From the report of the directors to the secretary of state, dated February 1st, 1848, it will be seen that the cost of construction of the different sections differs widely. The last 26 miles is nearer the *general average* cost of American railroads, than either of the others; and from a recent excursion over the line, we consider it the best part of the road.

If the present managers will press the work forward with spirit, until it reaches the Western road, at, or near, where it crosses the state line; or even form a junction at a suitable point, with the Housatonic road—if that company will allow it—and thus receive the western Massachusetts, and western Vermont business, which will naturally seek New York, over a line of roadfrom the North Adams road to Rutland, they may feel quite safe in obtaining a good business, and fair returns upon their investment, notwithstanding the powerful rivals—the Hudson river, and *its* competitor, the Hudson river railroad.

There is very little of interest—except a *very few facts*—in the report; yet we give it, as we shall the other reports, by the New York companies, as matter of record, for future reference. It is as follows, viz:

Report of the New York and Harlem Railroad Company

To the Hon. C. Morgan,
Secretary of State:

Sir—In accordance with the resolution of of the assembly, passed Feb. 2, 1842, the N. York and Harlem railroad company make the following report:

The entire length of the New York and Harlem railroad completed and in operation, is about 53 miles, extending from the City Hall of the city of New York to Croton Falls; about 8 miles is a double track, and the whole road run by steam is laid with the heavy H rail, from 32d street to Croton Falls.

In addition to which the company is constructing 29 miles of road from Croton Falls through Putnam and Dutchess counties, to Dover Plains, part of which is graded, and the whole of which the company intends to complete and put in operation during the present year.

Nunber of miles in operation	53
Cost per mile of construction of road from the City Hall, to the south side of Harlem river bridge, 8 miles	104,375 00
From the south side of Harlem river br. to Williams bridge, 6 miles	38,475 00
From Williams bridge to White Plains, 13 miles	11,277 00
For a portion of road graded under a former contract and not used for the present line	1,384 61
From White Plains to Croton Falls, the present terminus of the road, 26 miles.	26,010 16
Total expense of constructing the road in operation, 53 miles	1,874,892 71
Expenses of running and repairing the road for 1847	136,668 82
Number of passengers through to Croton Falls since June 1, (when it was open for travel) 7 months	42,378
Number of way passengers for whole year	1,535,892
Receipts from through passengers	42,378 00
" way "	183,227 04
Total income from passengers	225,605 04
" " freight	29,606 05
	255,211 99
Dividends	none.
Number of engines	13
" train cars	24
" city line cars	21
" freight cars	32
" baggage cars	8
" machine shop	1
" horses	165
" men employed daily, about	200

Charles Parsuall, Prest.
A. Kyle, Jr., Sec'y.

Important Discovery.--Artificial Stone.

Mr. Wm. Blake, of Akron, Ohio, has exhibited to us an article which we think, from what we have heard and seen, bids fair to become of great value. It is a metalic substance, discovered by Mr. Blake about four years since, in Sharon, near Akron, in a basin or vault of the rocks, and when taken from the mine, has all the appearance of the finest indigo, and is about the consistence of cold tallow, but exposure to the atmosphere, a few days, turns it to a hard stone, or slate.

It is believed by geologists, who have visited the mine, that there must have been a crevice, or fissure, in the bottom of the vault, through which this substance was ejected, while in a liquid state, from below. Previous to being used, it is ground to a fine powder, and mixed with linseed oil, and applied with a brush, to either *wood*, *tin*, *iron*, *canvass*, or *paper*, and in a few months it turns to stone, or slate, protecting whatever is so covered, both from the action of the weather, and from *fire*; as the weather serves only to turn it to stone, and the longer the exposure, the harder it seems to become; and fire only chars the wood which has been covered by it, but it does not ignite, if the covering remains unbroken, as it keeps out the atmosphere.

Slates for schools are made from it, by covering thin boards, or thick paper with it, and after it gets hard, it will show pencil marks equal to the best slate. It is also susceptible of the highest *polish*, resembling the finest *Egyptian marble*, and it may, therefore, be found valuable for chimney pieces, centre and pier tables, etc., as you have only to make the wood, and cover it with this paint, and after it hardens, polish it down, as you do marble. But its greatest value and consumption, we think, will be for roofs of buildings, steamboat and car decks, bridges—especially *railroad bridges*—fences, etc. etc., where we want them both fire proof and weather proof. Mr. B. sells it, we understand, at his mill, in barrels, ready to mix with the oil, at three dollars per 100 lbs. This quantity will cover a roof 33 ft. square, or 1000 superficial feet, the cost of the oil, and putting on, is the same as for ordinary painting. It may be applied to tin, iron, zinc or shingle roofs, already on. If your roof has been long shingled, you need not take them off, but *sweep off all* the moss and lint with a stiff broom, and cover them with this artificial slate, and in a few months you have what is equal to a perfect slate roof.

It is said that there is nothing equal to it for all iron work that is exposed to the weather, as it forms a complete stone covering, becoming nearly as hard as the iron itself, and entirely prevents its corroding.

We derive these statements from the discoverer, and proprietor, and of course form our opinions from specimens exhibited to us in the state as taken from the mine, which might be cut with a knife, like hard tallow, or pulverised with the fingers—other specimens in the condition of *stone* or *slate*—

and also spread upon wood as paint, and polished like the finest marble, and resisting the knife equal to the common slates used in schools, or on roofs.

Judging from what we saw, it must form a covering for railway bridges, and cars and depots of wood, superior to anything yet applied as a preventive of fire, and of decay.

We shall endeavor to obtain further information as to its value for these purposes, and if we are successful, it will be given to our readers.

Analysis, by J. R. Chilton, New York, September 4, 1847, of Wm. Blake's *mineral, artificial, stone*:

Sillica	54 00
Allumina	24 20
Protoxide of iron	12 05
Lime	2 31
Magnesia	0 42
Carbon	1 50
Sulphur	0 11
Water	5 00
Loss	0 41
	100 00

Wabash and Erie Canal.

Having given the Report of the Trustees, we now give that of the Chief Engineer, from which we get the details of the condition of the canal when it passed into the hands of the Trustees.

Report of the Chief Engineer, descriptive of the Condition of the Canal at the Commencement of the Trust.

OFFICE OF THE CHIEF ENGINEER,
Terre Haute, Nov. 1, 1847.

To the Trustees of the Wabash and Erie Canal:

GENTLEMEN: Soon after the meeting of your board in June last, I was furnished with a copy of a resolution adopted on the 19th of that month, in the following words:

"That the chief engineer be requested, so soon as his other duties will allow, to make a personal and particular examination of the finished canal, and of all the various structures thereon, such as locks, dams, culverts, bridges, etc., and that he submit to the board a detailed report, descriptive of the exact condition of the canal, and the structures aforesaid, at the commencement of the trust."

In fulfilment of the duty required by this resolution, I have the honor to submit herewith a paper, (marked A.) giving a particular description of the Wabash and Erie canal, and the various mechanical structures thereon, and showing, also, their condition on the 1st of July last.

For convenience of future reference, the locks, aqueducts, culverts and road bridges, have been numbered in the order of their location, commencing at the east line of the State. From this enumeration, it will be seen that on the whole line of the canal, as far west as Coal creek, there are 37 lift locks, 7 guard locks, 10 dams, 10 aqueducts, 144 culverts, and 74 road bridges.

East of Fort Wayne, the canal was constructed with a minimum size of 50 ft. width at the surface, and 5 feet deep. West of that place, 40 feet surface and 4 feet deep, are the established minimum dimensions.

The total length of navigable line, exclusive of feeders is 189 miles, extending from the State line to Lodi, at the crossing of Coal creek in Parke county.

At the commencement of the trust, on the 1st of July, the date to which this description of the canal throughout is designed to apply, the division extending from Covington to Coal creek, was not fully completed; but a force was found operating thereon. The force was allowed to continue, and in the month of October this division was so far finished, as that the water was introduced throughout its whole length, and on the 27th of October, 1847, navigation was extended to Coal creek. The erection of a road bridge, the construction of a waste way, and a short guard bank, the raising of the berm bank through a part of the "*bog*," and the gravelling of 1½ miles of towing path, still remain to be done; the cost of all which, as well as all expenditures heretofore made on this division up to 1st November, 1847, is chargeable not to "*repairs*," but as items in the "*construction*" of the canal south of Covington.

In the description of all perishable structures, I have named the probable period at which each will require re-building—thus furnishing, in this descriptive report, the basis from which an approximate estimate can be made, of the sum required each year for this branch of the repairs.

It will be observed that timber, instead of stone, has been used in building most of the locks, culverts and other mechanical structures. Excepting in such instances as the timber has been preserved from decay, by being placed under water, they will require rebuilding within the next two or three years. The cost of rebuilding these decayed wooden structures, will constitute a large proportion of the repair expenditures for some time to come.

In nearly every instance where timber was used in the construction of culverts, they were placed at such level, relatively with the bed of the streams, as that the timber is wholly submerged, and in this condition is not less durable than the best of stone.

The dams on the Wabash and Erie canal, on which the regular and safe navigation so essentially depends, are found generally in a secure and promising condition. They were built upon the most permanent plan (except the small one across the Wea) and will answer the end of their construction for many years, without much expense.

In some instances where cut stone locks were built, experience has shown that the stone used, is not sufficiently durable for a situation so exposed as the face of a lock wall. Several of these cut stone locks must be rebuilt within a few years, or be kept in such condition as will answer the purpose, by frequent and expensive repairs—a forcible admonition that the great expense of a cut stone lock, should be incurred only when the stone are known to be imperishable.

Inasmuch, as in the paper referred to, there is no description of the embankments of the canal, the fact of their having settled, on particular portions of the line, so low as very soon to require raising, should be here noticed. On the whole length of finished canal, there is as much as four or five miles of bank that should be raised, commencing with those points where the danger is most pressing.

In describing the mechanical structures connected with the canal which need rebuilding, it will be perceived that road bridges are included. This item, however, does not belong to the repairs of the canal, and has not at any time heretofore, been included under that head. No contracts for rebuilding bridges has been made.

In any description of the canal, designed as an index to its future value, or as a guide in adopting measures that may augment its revenues and its usefulness to the country, the adequacy of the supply of water provided for the several divisions, is properly a subject for investigation and review.

Before proceeding with the consideration, in detail, of this vital question, it should be stated that the general fact of the failure of streams in their extreme low water flow, with the clearing up and cultivation of the country, has been fully realized in respect to the water courses of the Wabash valley. Up to this period, a greater diminution has been noticed in the Wea and Shawnee creeks, than in most other tributraies, amounting, within the last 9 years to nearly 40 per cent. The decrease in the low water discharge, and a corresponding increase in the floods, has however been noticed by all close observers, in respect to most of the streams from which feeders are drawn for the canal, as the country is changed from its natural state as a forest, and advances towards a high state of agricultural improvement.

Referring to the accompanying descriptive statement, it will be seen that the summit division, with the subordinate levels wholly dependent thereon, in each direction, is in length 52 miles, extending from the reservoir in Ohio to the forks of the Wabash. Adding to this, the St. Joseph feeder, 7½ miles nearly, with a portion of the line west of the forks, at times dependent on the summit, and it gives over 60 miles as the length of canal supplied from the summit level. To this must be added the demand for lockage water, which is a variable quantity, bearing always a direct proportion to the number of boats passing the summit.

To meet this demand, we have the feeder from the St. Joseph river—a permanent stream, gauging never less than 4,250 feet per minute. This quantity furnishes for each mile about 70 feet per minute, from which, however, must be deducted the water used in the lockage of boats through the summit.

This quantity per minute being less than the usual allowance for canals, it has been anticipated heretofore, that an additional feeder would ultimately be required; and accordingly surveys have, in past years, been made under the authority of the State, showing that the deficiency, when it shall occur, can be made up either by a reservoir in the valley of the Aboite river, or by a feeder from the St. Mary's river. The period when this additional feeder will be required, depends upon the increase of business, and the reduction that may take place in the low water flow of the St. Joseph river, through the clearing up of the forest and the draining of wet lands. During the past summer, this di-

vision of the canal has been fully supplied.

At the forks of the Wabash, a feeder from that river is received, which, with some aid in times of extreme draught from the St. Joseph feeder, supplies the canal to Lagro, a distance of 11 miles.

At Lagro, another feeder from the Wabash is introduced, which, thus far, has furnished an adequate supply thence to Peru, distant near 21 miles.

By means of the dam near Peru, the waters of the Wabash, with those of the Mississinewa emptying in just above, are turned into the canal, furnishing a full supply to the crossing of the Wabash, a distance about 36 miles.

This division passes for a portion of the way, over a limestone formation, and wastes more than any other section of the canal. As much as 140 feet per minute per mile, is required to supply the leakage and evaporation.

The canal, from the crossing of the Wabash to Lafayette, is amply furnished with water by that river, and the Deer creek and Wild Cat feeders.

South of Lafayette a sufficient supply has not been furnished. During the past summer and autumn, boats could take out but little over half a load. Even when the banks were in such a condition as to sustain three or four feet of water, it was found impracticable, with the utmost vigilance on the part of the superintendents, to fill the canal in the vicinity of Covington, above 2½ feet.

The insufficiency of water on this division has caused much solicitude. Not only will it affect unfavorably the business of this immediate section of the State, but looking to the future navigation from the lake to the Ohio river, any obstruction on this central division must operate as a burthen upon every boat that passes, affecting the interests of trade throughout the entire length of the canal.—The revenue is also diminished by any imperfection in the navigation. Whatever resources may be at our command, that will aid in making up a full supply on this division, should be at once resorted to.

The location of the canal, and the kind of material forming the embankments, from Lafayette to Coal creek, are such as to require the maximum quantity of water usually allowed, or at least 100 feet per mile per minute. On some portions, where the soil is gravelly, the leakage in future years will diminish, while along the rocky districts, time will have no such tendency. Considering the increased pressure upon the introduction of 4 feet water, we are not authorised to expect any material diminution in the leakage, compared with the past season.

From Lafayette to Coal creek, the length of line is near 51 miles, which, at the allowance of 100 feet per mile, gives as the demand per minute (cubic feet,) . 5,100
Add to this the loss of water through the Perrysville side cut, now very large, but may be reduced to, (cubic feet,) 500

Giving as the total demand, (c.f.) . 5,600

From Lafayette to Coal creek, the line can receive no feeders worth naming, except from the Wea and Shawnee.

From the Wea is received after supplying the unavoidable leakage through the dam and feeder, (c.f.) 700
From Shawnee say, (c.f) . . . 300
From Young's branch, perhaps, c.f. 100

Total, (c.f.) 1,100

Which, deducted from the demand as shown above, leaves 4,500 cubic feet per minute as the quantity which, in extreme low water, must be drawn from the feeders above Lafayette.

No aid for this division is anticipated from the Coal creek feeder, for the reason that in dry seasons all its water will be required south of that point.

The Lafayette level receives the waters of both Wild Cat and Deer creeks. These will afford some surplus after supplying the level. The excess, however, is not large. The greater part of the large deficiency on the lower part of the line, must be passed thro' the Lafayette level, from the Wabash feeder at Delphi. Fortunately there is in this stream an abundant supply.

The only question that can arise in considering the subject of supply for the lower line, has reference to the practicability of passing so much water through the upper portion of the canal.

The Lafayette level is near 22 miles long, extending from the lock at Delphi to the one at the crossing of Wea. This level was constructed no larger than the established size of 40 feet surface, and, not anticipating so great a demand below, no unusual descent was given it. An inclination in the surface adequate to the passage of the greater quantity of water now required, can only be given by raising the canal surface, at the upper end, to 5½ feet, or, perhaps, to 6 feet above bottom. This involves the necessity of raising the Deer creek dam, the pool of which forms a part of this long level. It will require 15 or 18 inches to be added permanently to the height of this dam.

The feeder from the Wabash is introduced on a level 5 feet above the level of the Deer creek pool. Yet, in order to pass this additional quantity of water through the canal and over the tumble of the Delphi lock, it is deemed necessary also to raise the Wabash dam 12 or 15 inches.

The canal near the lower end of this level between Lafayette and the Wea lock, by the washing in of the sand and gravel from the bluff, has been so constructed in its cross section, that the required quantity of water cannot be passed through it. The experience of the past summer has fully demonstrated the inadequate width of this section. As a part of the plan proposed therefor, for supplying the line to Coal creek, the canal along the Wea bluff, and at other points adjoining, should be widened during the ensuing winter and spring, to the full width established by law, of 40 feet at the surface.

The passing of the enlarged quantity of water through the long level from the Wea lock to Attica, will require that the surface at the upper end of this level, be maintained at five feet above the bottom of the canal.—To carry out this part of the plan, the Wea feeder dam must likewise be raised 10 to 12 inches.

With these modifications in the plan of the canal, and by restricting the use of the water at the Lafayette mills, during the dry season of the year, strong hopes are entertained that a sufficiency of water can be passed to furnish a regular navigation with four feet water to Coal creek. Until it can be demonstrated however, by the experience of two or three summers, that we have at our command an adeqeuate supply, great care should be exercised in the use of water on this division.—Under no pretext should water be leased for hydraulic purposes, however small the quantity, nor should water, in any quantity, be suffered to waste at the waste weirs, or be drawn off by the common practice of inserting pipes in the towing path. All subordinate or local interests will, doubtless, willingly defer their peculiar objects for the accomplishment, first, of the great and permanent object—that of securing for the Wabash valley an uninterrupted and perfect navigation to the lake.

Respectfully submitted,
J. L. Williams,
Chief Engineer.

Improvements of the Iron Manufacture.

The London Mining Journal says:—"Among the various improvements in the working of iron, which have been patented within the last few years, more particularly with a view to obtain a strong, tough, and elastic material for railway axles, wheel tires, and other parts of machinery where great shocks are unavoidable, we observe a patent has been taken out in England by Mr. G. Witherell, of New York, for a machine for manufacturing iron under various forms, and imparting to it a twist, by which the fibre is laid in a spiral direction instead of longitudinally, as hitherto has been done. By this means, the iron is rendered more available for resisting abrasion, and all other such forces as are destructive to the fibre. Hitherto iron has been made to pass through rollers, in reference to the direction of the fibre, parallel. In this operation, the patentee gives the iron the necessary twist, and afterwards hammers, rolls, or otherwise works it into form by heat, in the usual manner. The machine consists of a powerful bed-plate, with proper standard bearers, for carrying the working gear. This consists of a pair of common rollers, through which the bar to be twisted first passes. Directly opposite these are another pair of rollers of the same dimensions, and with the grooves through which the bar passes of precisely the same size. These last mentioned rollers not only rotate on their own axes, but they, with the frame and gearing in which they work, revolve in a vertical direction; and, as the bar of iron is forced or drawn through both pairs of rollers, the latter, by their joint-vertical motion, in addition to their own rotation, twist the iron into a form precisely similar to that of a wire rope, after which it may be worked up into any form in the usual manner. Its fibre and texture will be found similar to a twisted gun-barrel, and its tenacity and toughness greatly increased. It would be impossible to describe the whole of the gearing by which this double motion is given to the rollers without diagrams, but the above is a general description of the operation. We have seen samples of the iron made by the machine—one a round bar, about five inches in diameter, for a piston-rod and another for a tire to a locomotive wheel; this latter being polished and bronzed, shows the fibres to lie in contortions similar to those in a good gun-barrel."

Fitchburg Railroad Company--Sixth Annual Report.

Capital stock [including balance of assessments on new stock created in 1846]	$2,116,100 00	
Increase of capital stock since last report	533,900 00	
Capital paid in per last report	1,851,575 00	
Capital paid in since last report	384,325 00	
Total amount of capital stock paid in, [including assessments on new stock created in 1847]		$2,235 900 00
Funded debt per last report	None.	
Funded debt paid since last report	"	
Funded debt, increase of, since last report	"	
Total present amount of funded debt	"	
Floating debt, per last report	"	
Floating debt paid since last report, [a large part of this debt can lie 3 years, or may be paid at any time within 3 years, at the option of the company	"	
Floating debt, increase of, since last report	175,473 00	
Total present amount of floating debt	175,473 00	
Total present amount of funded and floating debt	175,473 00	
Average rate of interest per annum on do	6 per ct.	
COST OF ROAD AND EQUIPMENT.		
For graduation and masonry, per last report	358,812 71	
For graduation and masonry paid during the year	31,741 13	
Total amount expended for graduation and masonry		390,553 84
For bridges, per last report	146,113 24	
For bridges, paid during the past year	42,380 47	
Total amount expended for bridges		188,493 71
For superstructure including iron, per last report	512,626 72	
For superstructure, including iron, paid during the past year	58,079 05	
Total amount expended for superstructure, including iron		570,705 77
For stations, buildings and fixtures, as per last report	160,505 73	
For stations, buildings and fixtures, paid during the past year	54,944 19	
Total amount expended for stations, buildings and fixtures		215,449 92
For land, land damages and fences, per last report	427,321 83	
For land, land damages and fences, paid during the past year	264,628 10	
Total amount expended for land, land damages and fences [including depot lands in Boston and Charlestown		691,949 93
For locomotives, per last report	79,445 14	
For locomotives, paid during the past year	29,900 00	
Total amount expended for locomotives		109,345 14
For passenger and baggage cars, per last report	30,959 40	
For passenger and baggage cars, paid during the year	10,700 00	
Total amount expended for passenger and baggage cars		41,059 40
For merchandize cars, per last report	100,492 71	
For merchandize cars paid during the past year	32,357 13	
Total amount expended for merchandize cars		132,849 84
Total amount expended for gravel and hand cars		
For engineering and other expenses, per last report	59,041 44	
For engineering, and other expenses, paid during the past year	6,674 55	
Total amount expended for engineering and other expenses		65,715 99
Total cost of road and equipment [inclucing 31,994 27 expended on Watertown & Sterling branches in 1846, but which was not subdivided and charg-off in last report]		2,406,723 54
CHARACTERISTICS OF ROAD.		
Length of road		
Length of single track		
Length of double track		
Length of branches owned by the company, stating whether they have a single or double track		
Weight of rail per yard in main road		
Weight of rail per yard in branch roads		
Maximum grade, with its length in main road		
Maximum grade, with its length in branch roads		
Total rise and fall in main road		
Total rise and fall in branch roads		
Shortest radius of curvature, with length of curve in main road		
Shortest radius of curvature, with length of curve in branch roads		
Total degrees of curvature in main road		
Total degrees of curvature in branch roads		
Total length of straight line in main road		
Total length of straight line in branches		
Aggregate length of truss bridges		
Whole length of road unfinished on both sides		

Same as reported last year. The Watertown branch is not yet finished, about 3 miles being now used for freight and passengers, and the rest being nearly completed. When finished, the details required will be reported.

DOINGS DURING THE YEAR.	
Miles run by passenger trains	158,140
Miles run by freight trains	70,322
Miles run by other trains	28,317
Total miles run	256,809
Number of passengers carried in the cars	494,035
Number of passengers carried one mile	8,009,437
Number of tons of merchandise carried in the cars	244,476
Number of tons of merchandise carried one mile	5,198,497
Number of passengers carried one mile, to and from other roads	1,152,571
Number of tons carried one mile to and from other roads	453,066
Average rate of speed adopted for passenger trains, including stops	20 miles.
Average rate of speed adopted for freight trains, including stops	10 miles.
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile	9,488,400
Estimated weight of merchandise trains, including engine and tender, but not including freight, hauled one mile	5,272,115
EXPENDITURES FOR WORKING THE ROAD.	
For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron	14,229 17
For repairs of truss bridges	352 13
For renewals of iron, including laying down	None.
For wages of switchmen, gate keepers and flagmen	5,973 23
For removing ice and snow	83 96
For repairs of fences, gates, houses for flagmen, gate keepers, switchmen, tool houses	350 00
Total for maintenance of way	20,988 79
MOTIVE POWERS.	
For repairs of locomotives	10,824 09
For new locomotives to cover depreciation	
For repairs of passenger cars	7,551 62
For new passenger cars to cover depreciation	
For repairs of merchandise cars	6,970 98
For new merchandise cars to cover depreciation	
For repairs of gravel and other cars	1,742 74
Total for maintenance of motive power	27,089 43
MISCELLANEOUS.	
For fuel and oil	36,036 50
For salaries, wages and incidental expenses, chargeable to passenger department	23,399 27
For salaries, wages and incidental expenses, chargeable to freight department	29,659 48
For gratuities and damages	725 77
For taxes and insurance	5,450 40
For ferries	
For repairs of station buildings, aqueducts, fixtures, furniture	1,206 70
For interest	
For amount paid other companies, in tolls for passengers and freight carried on their roads, specifying each company	
For amount paid other companies as rent for use of their roads, specifying each company	8,334 11 Lexington & W. Cambr.
For salaries of president treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items	8,542 20
	161,433 44
INCOME DURING THE YEAR.	
For passengers:—	
1. On the main road exclusively, including branch owned by company	145,457 95
2. To and from other roads, specifying what: Vermont and Massachusetts 6,090 76; Lexington and West Cambridge 13,543 17	19,633 93
For freight:—	
1. On main road and branches owned by company	198,635 82
2. To and from other connecting roads: Vermont and Massachusetts 7,332 89; Lexington and West Cambridge 2,560 09	9,892 98
U. S. mails, $1,991; rents, etc., $15,122 29	17,116 29
Total income	390,736 97
Net earnings after deducting expenses [as above togethes with balance of 6,292 61 due Vermont and Massachusetts railroad, being net earnings due them but not yet paid]	223,010 92
DIVIDENDS.	
[In February and August	176,340 00
Surplus not divided [including 5 months net earnings]	146,715 31
Surplus last year do. do.	114,739 39
Total surplus	146,715 31
[The time of declaring dividend altered to January and July].	
ESTIMATED DEPRECIATION BEYOND RENEWALS, VIZ:	
Road and bridges	
Buildings	
Engines and cars	

The contingent fund is intended to cover the depreciation account beyond such renewals and repairs as are charged in current expenses.

We have to report the following accidents during the past year:

February 20th, As the Lexington train was coming in, when near the first crossing, beyond the Lowell railroad, a horse and wagon was discovered near the track. The engine man slackened his train, supposing the driver intended to cross the track. He then discovered that the horse had stopped, and inferred that the driver intended to remain where he was till the train had passed; the engine man then quickened his speed, but, before he had arrived at the crossing with his train, the horse started, and passed in directly before the engine. He could not stop his train till the driver was thrown from his wagon, run over and killed. It proved, on investigation, that the man was intoxicated, and that he probably was asleep, or did not notice the train at all. The whistle was blown and the bell rung at the usual places, besides an alarm whistle, to stop the train—all of which was unnoticed by the driver.

April 19th, Mr. Hubbell took the train at Porter's, to go to Concord on some business. The person whom he was in search of happened to be in the cars, and Mr. Hubbell transacted his business with him before the train had acquired much speed. He then attempted to jump off, lost his balance and fell, so that some of the wheels passed over and broke his leg near the ankle. Amputation was soon after performed by Dr. Walker, and Mr. Hubbell has recovered.

Jacob Forster, Abel Phelps, N. F. Cunningham, Israel Longly, Elias Hasket Derby, David Loring, Henry Timmons, Alvah Crocker, Horatio Adams—*Directors.*

Drainage of Railway Slopes.

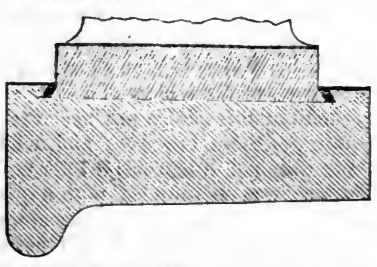
The following remarks in relation to the drainage of railway slopes are from the Scottish Railway Gazette. They may be useful to some of our readers, and therefore we give them a place.

"At a meeting of the Highland and Agricultural society of Scotland, there was a paper read by Mr. Stephens, an eminent authority, on the 'drainage of railway slopes.' He commenced by observing—'That every one who had travelled along railways may have observed, that large masses of earth had slipped down the face of the deeper cuttings; and on inquiring into the particulars of such accidents, they will find them to have arisen from the action of water on retentive clay. A common method adopted by the railway people, in draining cuttings, is to form open channels, in a slanting direction, down the face of the cutting in parallel lines, terminating in an open channel, which conveys the water to the drain by the side of the railroad. Another method consists of making drains, with tiles under ground, from the spots at which the water is seen to issue to the above mentioned drain. Notwithstanding these drains, land-slips still take place, and do not excite surprise, for such a mode of draining only attempts to struggle with the effects, and not with the cause, of the accidents. The water should be prevented doing any harm at all, and this is quite practicable. The ground at the top of all railway cuttings, exists in one of three states—sloping to the top of the cutting, on a level with it, or inclining away from it. When rain falls on the sloping ground, it will either run down the face of the cutting, carrying away the replaced soil with it, or be absorbed by a porous stratum, by which it will be led to appear as a spout, or spring of water, near the top of the face of the cutting. In the former case an open channel, formed a little way above the top of the cutting, will prevent the water running down the face of the cutting; and, in the latter case, an underground drain through the poorest stratum, will prevent the water going to the cutting. When the rain falls on level ground, it descends perpendicularly, and, on finding an inclined porous stratum, will appear at a lower level in the face of the cutting. The obvious remedy for this case, is to cut an underground drain into the porous stratum, and carry away the water where it can do no harm. On ground inclining away from the top of the cutting, the rain cannot affect the face further than what falls directly upon it; but on reaching level ground, and finding porous strata, it will find a way to the bottom of the cutting, where it may bring down, on a level with the railroad, a large mass of the superincumbent clay. Here, also, is the obvious remedy of making an underground drain into the porous matter, and carrying the water elsewhere. In regard to draining the ground on which embankments are formed, where there is a ditch or a rivulet, the conduit forms a very good outlet for any superfluous water that may have percolated through the porous material of which the embankment may be formed; but where there is no need of a conduit, the part of the ground occupied by an embankment should be furnished with well formed drains, to carry the water quickly away to the adjacent ditches. In neglecting to provide such drains, large land-slips from embankments have not unfrequently occurred after heavy rains, to repair the damage of which, has occasioned much trouble and expense. These suggestions for draining railways appear simple and obvious to agricultural drainers; but is it not singular, that they seem never to have occurred to railway engineers?'"

Locomotive Wheels--Evans' Plan.

Mr. Edward Evans, of the Haight Foundry company, England, has obtained a patent for a peculiar mode of putting on locomotive and other tyre—of which the following is his description, which we find in the June number of the Civil Engineer and Architect's Journal.

This invention consists in a mode of securing the tyre or hoop of the wheel to the spokes or inner rim, without the use of bolts or rivets. The patentee effects this object by using a dovetail groove in the tyre, and a dovetail projection on the rim, which is a method that has been previously adopted, therefore he makes no claim to that; but the peculiarity of his invention consists in making the groove larger than the projections, and filling the interstices with melted zinc. In the words of the specification, the patentee claims "the manufacture of wheels in which the dovetail groove in the tyre is wider at its narrowest part than the dovetail projection on the spokes or the inner rim of the wheel at its widest part, and the filling the spaces left when the tyre is shrunk on with melted metal or other hard substance."



The accompanying section of the tyre at its junction with the wheel, will sufficiently show the form of the grooves and projections. The dark portions represent the zinc or other easily fusible metal with which the spaces are filled.

Pure Iron and the Iron Manufacture.

The manufacture of iron has become a subject of so much importance, in this country, that we desire to contribute all in our power to its improvement;—we therefore give the following letter from *Mr. Robert Mushet*, an able, and frequent, correspondent of the London Mining Journal—which we find in that excellent work of 22d April. In addressing the editor, he says:

A short time since, I observed some very sensible remarks of Mr. Leighton's, in reference to pure iron; and, as Mr. Leighton seems to be much in advance of the very limited ideas and practices which prevail among ironmakers in general, I shall offer a few remarks which may prove interesting to him, and possibly to many more of your numerous readers. I would, however, observe, that I am not going to find fault with the iron masters, but only with their iron. It is no fault of the manufacturers that the public and railway companies especially, are content to purchase, at a low price, the crude and heterogenious compound called bar iron. but which is no more pure iron than brass is pure copper; yet it answers two important ends—that is, it yields a handsome profit to the manufactuter, and it is a cheap and tolerable substitute for real pure iron, which is as yet unknown in the arts and manufactures, and is only approximated to at certain obscure iron works in Russia and Sweden, where, from a happy combination of the native materials, the bar iron produced from them contains often from 96 to 98 per cent. pure iron—while the best Staffordshire nail rods never contain more than 94 5 per cent. of pure iron, and the common Welsh bars, often as little as 90 per ct., especially the cinder iron.

Perfectly pure iron is a dense and exceedingly brittle metal, of a specific gravity of 8 27. It is incapable of extension under the hammer at any temperature which can be communicated to it. It is far more fusible than any kind of ordinary cast iron, and deflagrates violently on exposure to the atmosphere—its affinity for oxygen being exceedingly powerful in the absence of any combined carbon. When pure iron is combined with carbon to the amount of one-hundredth part the weight of the latter, the property of malleability begins to be developed in the metal; and, when polished and heated gradually, it takes on the various prismatic tints peculiar to steel—but the colors are faint and less vivid than those observable in tempering polished steel. Iron thus combined with carbon is more fusible than pure iron, and less disposed to deflagrate on exposure.

As the proportion of carbon combined with pure iron, is augmented, the malleability of the mass is increased, as also its infusibility, until about 1-500th part of the weight of iron in carbon has been combined. The malleability of the iron, when heated, is now at its maximum, and so also is the fusibility of the compound. Iron in this state is susceptible of hardening to some extent like soft steel. It also has a slight tendency to break short when cold. The Danemora iron nearly resembles thts compound; but it contains in addition about 15 per ct. of manganese, which constitutes its only defect. Manganese may

sometimes improve inferior iron, but it always deteriorates pure iron.

When the carbon, combined with pure iron, is increased in its proportion from 1·500 to ·2 per ct. upon the weight of that iron, to ·3 per ct., all the varieties of soft steel are successively produced; and with ·3 per ct. of carbon, good easy drawing steel is formed; while the fusibility of the metal begins to increase, and continues to augment, until, with ·35 to ·4 per ct. of carbon, the limit of fusibility, combined with the property of malleability is attained; and, beyond this, the metal passes into steel grained white metal, with a deeply honeycombed surface. As the proportion of carbon is still increased, the honey combs become less indented, and the fracture resembles ordinary refined metal, while the hardness is very great, and continues to increase, until a sufficient quantity of carbon is combined to form a definite chemical compound of iron and carbon, consisting of—pure iron, 97·26; carbon, 2·71 = 100·000. This compound, when slowly cooled, crystallises in beautiful octohedra. Its fracture and appearance resembles what is called white cast iron. This is the only definite compound of iron and carbon whose composition I have ascertained; but I believe there are two more definite compounds—one constituting crystalline steel, and the other forming graphite.—Beyond 2·74 per ct., the carbon does not combine chemically with the pure iron; but begins to show itself in mechanical mixture, dotted throughout the compound, presenting the appearance of mottled iron. The fusibility begins now to diminish, and the tenacity and elasticity of the metal increases. With three per ct. of carbon, graphite begins to appear, which is, I believe, a definite compound of iron and carbon in equivalent proportions; but I cannot decide upon this matter, though many of the great metallurgists and analygists speak of graphite as though they really had ascertained its true composition. It is easy to combine pure iron and carbon in any proportions, under 10 parts of the former to 90 parts of the latter; but this combination always requires a higher temperature and a longer exposure, as the proportion of carbon to pure iron is augmented. With five parts of carbon, and 95 of pure iron, rich, black, lustrous cast iron is formed; but it is deficient in the strength, hardness and elasticity, observable in less carbonated iron. Ten parts of carbon, and 90 of pure iron, form a compound of a rich black color, consisting of thin plates, or scales adhering together so slightly as to be easily pulverised in a common wedge wood mortar. From the preceding observations, founded upon carefully repeated experiments, it appears that pure iron is the most fusible state of that metal—that the addition of carbon increases the malleability and diminishes the fusibility of the mixture, until it begins to pass into the state of steel, when the fusibility and malleability both decrease, until the limited hard steel is attained; and the iron passes successively into the state of white metal and white cast iron. There again the the fusibility is at a minimum, and the malleability has disappeared. Again, as the iron becomes mottled, bright gray, and, ultimately, highly carbonated, the fusibility diminishes, and the malleability, though very imperfect, increases.

Mr. Leighton is quite right in observing, that ironmosters cannot understand what he means by absolutely pure iron—in fact they have never seen it: or can they, or any of the learned metallurgists, from Karsten, down to Radley, even describe it appearance and charasteristics. It is impossible to convey an adequate idea in words of the strength, tenacity, ductility and brilliant appearance of absolutely pure iron, combined with carbon only. Inspection alone, and a trial of these qualities, can show clearly the immeasurable inferiority of the best manufactured iron, commonly termed soft pure iron, to that actually free from impurity.

The preparation of absolutely pure iron would be an expensive process, and it is vain to expect its adoption on a large scale; but much might be effected towards improving the qualily of British bar iron, if the wealthy portion of the iron manufacturers were to devote their attention to this subject upon sound and philosophic principles; but, unfortunately, they are contented with their ample profits upon an article of inferior quality, and care little about any improvement, unless a decided saving in costs is thereby effected. The art of iron making is yet in its infancy; and although the bantling is already of gigantic stature, still its education has been overlooked, or at least greatly neglected. I look upon the iron trade as in the same crude condition as was the agriculture of Norfolk before the time of the celebrated Mr. Coke; and that an iron master, having at his command an equal amount of wealth and illelligence with that possessed by the above enterprising agriculturist, might effect as complete a revolution and improvement in the manufacture of iron as that brought about by Mr. Coke in farming operations. There is a wide and barren field open for cultivation, yet no real improvements are made in the quality of the iron produced. We often hear of extraordinary makes of pig iron as to quantity, and also of immense bars and sheets of iron rolled out in one piece; but we never hear that, at any work, bar iron has been produced equal in quality to the foreign make—on the contrary, the general character of British bar iron is much lower than it was 20 years ago. I recently saw some 1¼ inch square bar iron from a celebrated iron work in Wales, broken short when cold like cast iron, with the blow of a light sledge. A fragment of this choice produce was fused in a close porcelain crucible; and, when afterwards weighed, it had lost 9·7 per ct. of its weight, and was surrounded with a quantity of greenish glass, or cinder. Danemora iron in fusion, *per se*, loses only 1·25th per ct. in weight; so that the Welsh iron contained about 9 per ct. more of dross, or impurity, than the Swedish iron; neither was it freed from all its impurities by this fusion; ior it retained enough lime to make it completely red short.

Iron is the most tractable of metals; for it will bear to be alloyed with almost any substance of a metalic nature, without losing more than a portion of its valuable properties. Every alloy, however, deteriorates its quality—but some alloys are comparatively harmless, such as manganese and minute portions of nickel, barytes and phosphorus. Manganese has been supposed to improve the quality of iron; and perhaps, to a certain extent, this may be true, for it often supplies the place of deleterious alloys, or combines with them in fusion, and carries them off in the state of slag. Chemists have been unable to determine exactly the equivalent of iron, and hence their analysis are all contradictory, often absurd, and always incorrect. Thus Karsten states, that he has found 2·3 per ct. of carbon in cast steel; so that, allowing for a moment that cast steel readily could contain such a per centage of carbon, it follows that the blistered steel gains ·55 per ct. of carbon during fusion in a clay pot—a fallacy of conclusion which needs no comment.

Now I find, from conclusive experiments, that cast steel, which contains only ·5 per ct. of carbon, crumbles to pieces at the lowest red heat under the hammer; yet Karsten finds, by *analysis*, 2·3 per ct. in cast steel.—The per centage of carbon gained by Danemora iron during cementation, for highly converted steel, is only ·15 to ·17 per ct. I am salisfied that no accurate analysis of iron or steel has ever been published; and it is only by synthesis that the amount of carbon combined can be correctly ascertained.

Some years since, my father sent a sample of gray cast iron to each of three eminent analytical chemists, that they might each ascertain the per centage of carbon which it contained. The iron was all filed from a button, obtained by fusion in a crucible. The analysis gave 4·62, 3·17 and 2·41 per ct. of carbon respectively; so much for analysis as applied to ascertain the amount of carbon combined with cast iron.

TO CONTRACTORS.

PROPOSALS will be received at the Office of the James River and Kanawha Company, in Richmond, for the connection between the Basin at Richmond and the Richmond Dock. This work will consist of three locks of 18 feet lift, and one of 15 feet lift; intermediate canals for an aggregate distance of about half a mile, with such culverts, walls, wastes, street bridges, etc., as shall be necessary; and a stone dam across James River on the Falls at Richmond.

This work will be paid for in bonds of the company (to be issued under authority of an act of the legislature) running 25 years, bearing six per cent. interest, payable semi-annually, and secured by the net revenue of the Richmond Dock.

Besides the usual reservation of 20 per cent. on the monthly estimates, the contractor or contractors will be required to give ample security, satisfactory to the Board of Directors, for the completion of the work at the times and in the manner specified in the contracts.

Plans of the above works will be exhibited, and specifications thereof delivered to contractors, at the Company's office in Richmond.

WALTER GWINN, Chief Eng.
of the J. R. & K. Co.

Richmoud, July 11, 1848. 3t29

RAILROAD IRON—500 TONS HEAVY Pattern—to arrive. For sale by
DAVIS BROOKS & CO.
June 3. tf 68 Broad street, New York.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles,* and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen,* or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, Slabbing, Plaining, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at
39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales,* of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. / A. B. NOARIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

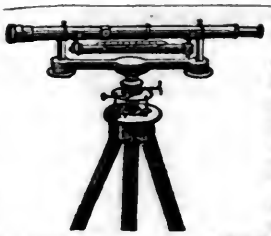
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

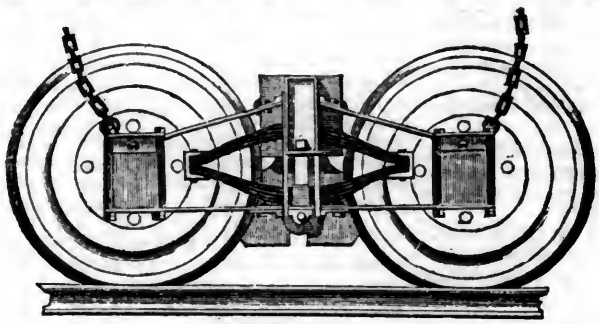
MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car. For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power.

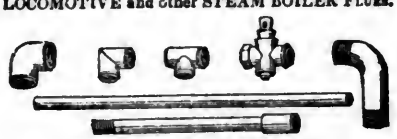
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TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ed barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

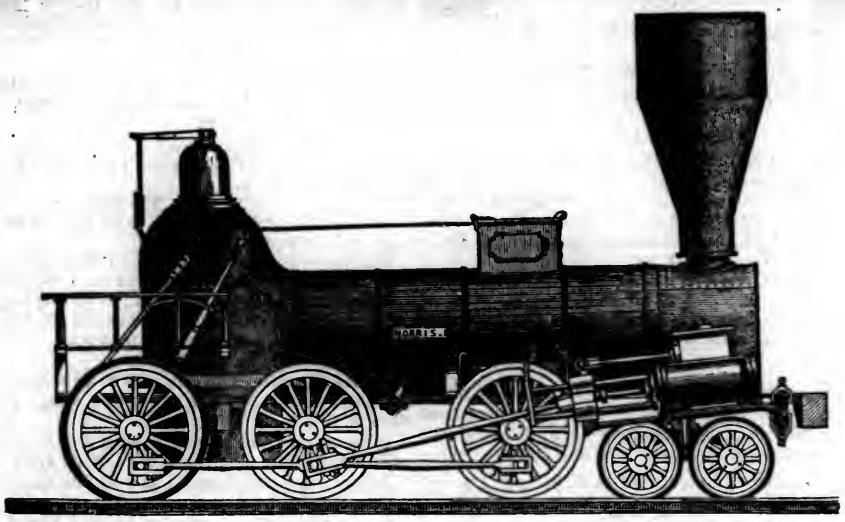
Furnished and fitted at short notice.

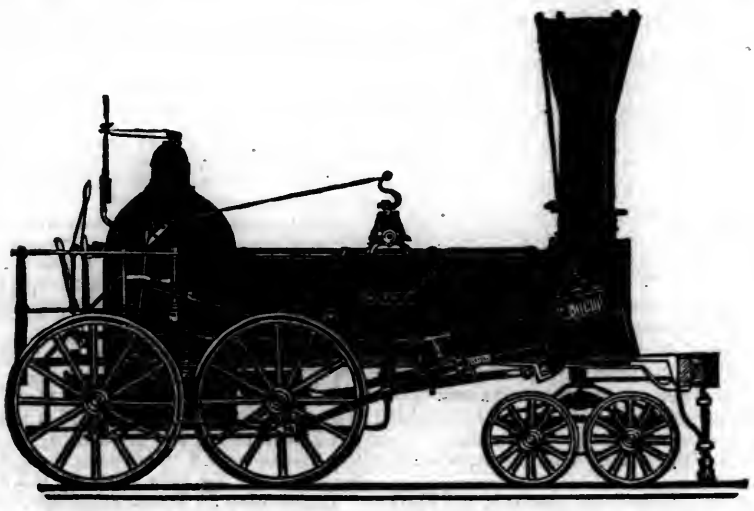
Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbosh.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.


This Road in connection with the South Carolina Railroad and 
Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1v

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia. April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and 
Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn...	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, Jr.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after 
Tuesday, June 1st, 1847, the cars 
will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.
Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.
Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.
Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.
White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.
Pleasantville, 8 15 a.m. and 5 15 p.m.
Newcastle, 8 a.m. and 5 p.m.
Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.
Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.


Commencing July 3d, 1848. 

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAIL-

road. Summer Arrangement. On and after 
Monday, April 3, 1848, the 
Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, May 1st, 1848.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 10 a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Allyn's Point for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Mortow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

Fare—From Cincinnati to Lebanon			$1 00
"	"	" Xenia	1 50
"	"	" Springfield	2 00
"	"	" Columbus	4 00
"	"	" Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

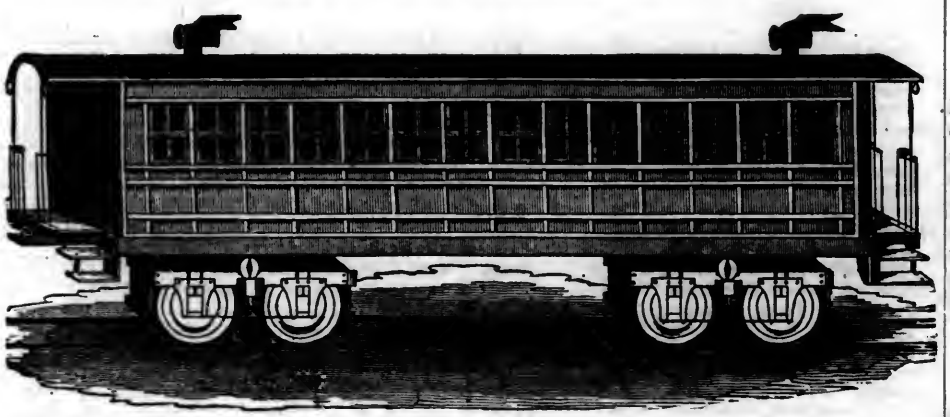
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

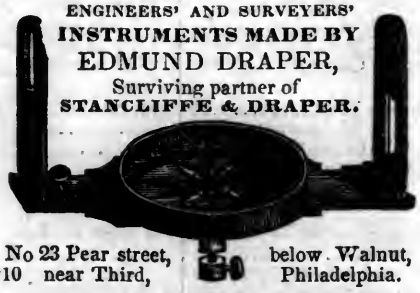
ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, near Third, below Walnut, Philadelphia.

1y10

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 31.] SATURDAY, JULY 29, 1848 [WHOLE No. 642, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, July 29, 1848.

Relative Rates of Fare and Freight.

CAMDEN AND AMBOY, AND OTHER RAILROADS.

We wish to call attention to the subject of *railroad charges*, for *passengers* and *freight*; and, that the relative rates of charge, on different roads, may be better understood, we give a statement, made with some care, including *sixty-eight* of the principal railroads in the country. By this statement, will be seen the rates *through*, and *per mile*—both for *fare* and *freight*—and all may judge who deal liberally, *or otherwise*, with the travelling and business community. *One* object of this statement is to show how *unjustly the system adopted by New Jersey*—of granting a monopoly to a single company—*operates* upon all who are obliged to pass over her soil.

This company gave the State *two thousand* shares of stock in the companies—or 200,000 dollars—for which the State *paid nothing*, except granting the exclusive right to carry passengers and freight; and they pay, in addition, ten cents on every passenger, and fifteen cents on each ton of merchandise, transported by them across the State—the amount of which tax, and the dividends on the two thousand shares of stock, amounted, in 1847, to over *eighty-one thousand* dollars. Yet, the *people* of New Jersey were *losers* by the bargain.

We have made several extracts from the separate *charters* of the two companies, and from the several supplements to them, showing the gradual appoaches to, and the *consideration paid for*, the *entire prohibition* of any other railroad in New Jersey, which *may possibly interfere* with their operations. These extracts should be read with care. It should be noted that the rates of freight are fixed "at *not more than eight cents per ton per mile*"—or $7 20 per ton through, 90 miles, on the railroad, and 4 cts. per ton pr m. on the canal; and it will be noted, that the fare is fixed at "*not more than three dollars*, for transporting passengers to and from the cities of New York and Philadelphia. Yet more than one half of the passengers are charged *four dollars*—and the rates of freight have varied from thirty cents to one dollar per 100 lbs.—and they claim the right, as we understand, to charge what they please, on freight *through*, as the legislature of New Jersey had no right to restrict them upon the waters of New York—that is, after leaving the *railroad*, and taking the steamboat. Had they not as much right to fix the rates of *freight*, as of *passengers?* In one case there is an *omission* of the two points—in the other they are specified—both are referred to in one section, and were evidently designed to cover the same distance.

We give a statement, in another column, of the rates of through, and *various way fares*, showing the expedients resorted to to keep the people of New Jersey easy under the saddle. It reminds us of the means often resorted to, when a lad, to catch "the old *plough* horse," for working in the cornfield—a handful of corn, or salt, in a box, would make quite a rattling—and the simple old fellow would, for a taste of salt, or corn, allow himself to be caught, and work all day before the plough! and he was *sometimes* deceived in that, and only found *pebbles* in the box!

We ask attention to the extraordinary prosperity of the *seven Boston* roads, alluded to on this page.—*There is no parallel to it on record*—and it has been produced by a system of *accommodation*, and *inducements to use them*; and a similar system would produce *similar results in New Jersey*, if adopted and carried out there in good faith.

On most, if not all, *other* railroads, both in *this* country, and in *Europe*, the *way* fares are the same, or a fraction more, *per mile*, than the through fares; but under the management of *this* company, they are much less—*reversing* the usual mode of doing business—or charging *higher rates at wholesale*, than at retail.

As high as the *legal* rates of fare and freight are—there would be, *comparatively*, but *little* complaint, if the company would *abide by them*—charging *prorata* rates for *way* fare—and increasing the speed to a proper rate—say four, or four and a half hours. Of *this* we are quite sure; and, by way of compromise—though we cannot allow that three dollars is as *low as it should be*—we pledge them the support of the Railroad Journal, if they will adopt this course with a good grace.

Way Fare from Trenton to New Brunswick.

We have been a little in the fog, we must admit, in relation to the legal, and proper fare, on the railroad between Trenton and New Brunswick, and wishing to be right, we wrote to a friend, residing in Trenton, for the facts; and, after some delay, from his being in New York, we received the following letter, dated "New York, July 22d, 1848."

To the Editor of the American Railroad Journal:

SIR: Your favor of 18th ult. is received. The regular fare from Trenton to New Brunswick is $1 25, but an *inhabitant of Trenton* has the right to purchase a commutation ticket, entitling him to eight passages for five dollars—equal to 62½ cents per passage, he paying 10 cents State tax, on each passage, in addition, so that the passage costs 72½ cents.

Very truly yours, ☞

We were under the impression that the regular "way fare," between these two points, was 75 cents, and so stated in the last number of the Journal—but we now give the above, as furnished by a resident of Trenton. We also learn that these commutation tickets are sometimes sold to others than "inhabitants of Trenton," and that they have a sort of "open sesame" influence on the conductors, not only from Trenton to New Brunswick, but also from New Brunswick to New York, and from Philadelphia to Trenton—that is to say, a person who has one of them, only pays 50 cents, and a *clip*, or a *coupon*—from the ticket.

Since writing the foregoing, we have received the following statement from a gentleman, a merchant of this city, who speaks from the book in relation to the

COMMUTATION TICKETS

FROM TRENTON TO NEW BRUNSWICK, VIA THE PHILADELPHIA, TRENTON AND NEW BRUNSWICK RAILROAD LINE.

Tickets of the above character, costing $5, are issued at Trenton, signed by "B. Fish," which entitles the receiver to eight passages between Trenton and New Brunswick, by any line on the route. The mode of proceedure is this. The ticket is printed with seven narrow strips at one end, each of which has a printed number, and is countersigned by some officer. Upon the holder of such ticket being called

upon in the cars to settle his passage, he shows this ticket, from which the conductor cuts off one of the aforesaid strips, (similar to a coupon), and the passenger pays, in addition, 10 cents, being the amount of State tax, and the business is settled—while another man, on the same seat, pays $1 25. When all the seven strips, or coupons, are thus cut off, the remainder of the ticket is surrendered at the eighth trip.

At this rate the cost of a passage, to the holder of a commutation ticket, between Trenton and New Brunswick, is 72½ cents. It has been represented, that these tickets are confined to citizens of Trenton. But this is not the case. They are not even confined to the citizens of the State of New Jersey.

But such tickets confer other immunity. It is well known that the way fare, by the 9 and 4½ o'clock trains, between Philadelphia and Trenton, and between New Brunswick and Jersey city, is 75 cents. Whereas by the other lines, at different hours, it is only 50 cents; yet a *through* passenger in the 9 and 4½ o'clock lines, pays more than $1 25, for each of those parts of the line—or a third of $1—and also, that to a passenger who pays from Philadelphia to New Brunswick, and *then* concludes to proceed on to Jersey city, the fare between those two places, by *that* line, is 1 25; whereas, if he be the fortunate holder of a commutation ticket, upon its prodection he pays but 50 cents, in all those cases—either between Philadelphia and Trenton, or New Brunswick and Jersey City. This the writer knows to be a fact, having seen it practised by a citizen of New York.

***

We may add that there is equal irregularity in the way fares, on the Camden and Amboy line—as through to New York, 90 miles, the fare is 3 00, or 3·33 cents per mile—and to South Amboy, 62 miles, 2 75, or 4·43 cents per mile—and Spottswood, 52 miles, 2 00, or 3·84 cents per mile, and to Bordentown, 27 miles, 37 cents, or 1·57 cents per mile.

Thus it will be seen that the way passengers on one line, or at least for Amboy, are charged at the same rate as the through passengers on the $4 lines—while on another portion of the same line, to Bristol and Bordentown they pay less than on any other portion of either line. This, however, is a fair competition with the steamboats, and cannot be avoided. Nor should it be, but the two lines—distinct lines, as they should be—should compete fairly for the business. A competition so regulated as to draw out the greatest possible travel, and transportation, would be most useful, not only to the community, but also, most certainly, to the shareholders. This is what we go for, and not for reducing fair and legitimately earned profits—but we go also for *uniform*, and *equal*, and *just* charges.

Cheap Freights between New York and Philadelphia.

Our assertion that the railroad company have charged as high as one dollar per 100 pounds for merchandise between New York and Philadelphia—or 22 40 per ton—has been questioned by some. We therefore will merely observe that we have examined the bills of one house, 21 in number, for two to twenty cases each, for a single month, amounting to over 100 dollars—in which every charge was as high as, and some higher than, one dollar per 100 lbs.; and on each bill was a charge of 25 cents, and upwards, to as high as four dollars for "cooperage." One case of 75 lbs. was charged 75 cents freight, and 25 cents cooperage—making even money!! 10 per cent., at least, of these bills was for cooperage!!! No wonder coopers grow fat.

Penalty for Over-Charges on Railroads in New Jersey.

We have alluded, once or twice, to a penalty for over-charging on the railroads in New Jersey; but, when we were asked to point out our authority, found it not as easy to prove, as to assert, a fact—and, because we could not find the clause in the charter of the railroads in that State, we began to apprehend that we might have been in error. We were, nevertheless, correct in our belief, and assertion—as will be seen by the following copy of a law of the State of New Jersey, passed May 12, 1839, for the purpose of preventing illegal exactions, by those who "feel power and forget right."

To the Editor of the American Railroad Journal:

Agreeably to your request, I give you a copy of the law imposing penalties for taking illegal tolls, by which you will see that the mere fact of demanding such tolls—even where they have not been paid—subjects the company to the payment of the penalty. The unpaid bills of the last two months are therefore in the same precise position, as the paid bills of the previous ten months.

An Act to prevent the taking of unlawful toll or fare on canals and railroads.—Passed March 12, 1839.

Whereas, complaints have arisen, that some of the incorporated companies of this State have taken a greater amount of fare or toll than is allowed by law, and also of the unequal, fluctuating, and unlawful rates of toll, or passage money, upon the several canals or railroads of this State—therefore, Be it enacted by the Council and General Assembly of this State, and it is hereby enacted by authority of the same, That any incorporated company or companies in this State, which is, are, or shall be authorised by law, to take toll, or to charge for the transportation of passengers, goods, wares, or merchandise, which shall, directly or indirectly, through or by any agent, director, or other officer whatsoever, take or demand of any passenger or person, under any pretence whatsoever, more than the charge, toll, rates, or fare allowed by law, shall forfeit and pay the sum of one hundred dollars for each and every such offence, to be prosecuted for and recovered with costs, before any justice of the peace in any county of this State, through which the said road or canal may pass, in the name and *for the use of the person or persons prosecuting for the same.*

In order that your readers may appreciate more fully the importance of availing themselves of the power over the united canal and railroad companies of New Jersey, that is afforded them by the recent decision under the above law, now beg to offer you a further contribution to your History of American Canals and Railroads.

By the charter of the Delaware and Raritan canal company, the tolls are limited to four cents per ton per mile, for *toll and transportation.*

The managers interpret this to mean, that they have a right to demand four cents *for toll alone*, and accordingly all but cheap and bulky articles are taxed at that rate, the consequence of which is, that transient vessels are driven from the canal, as the mere toll is more than the actual charge for freight* by sea.

The mass of the freight is therefore carried in barges owned by the managers, which are towed by boats owned by the company, and the charge for the transportation of general merchandise is 26 cents per 100 pounds, or $6 38 per ton, when, according to law, it should not exceed four dollars. The managers claim that they have a right to make this charge, because the limitation extends no further than the canal, and does not apply to the navigable waters at either end of it. The result is as follows:

The legal toll on the canal is	$1 72
The managers charge	6 38
Leaving for the conveyance of a ton of merchandise about sixty miles by water, and delaying it days, *and sometimes weeks*, on the road	4 66

The systems of the railroad and canal being such as I have represented them, there arose, very naturally, a desire for dividing the spoil, and a company was formed with a view to the transportation of merchandise, by steam, around the cape. In a short time, the railroad managers found that it would be convenient to grant to this company the use of their canal, with privileges that were denied to all others, thus making the desired division, reserving to themselves, however, the exclusive control over the trade between Philadelphia and New York, and limiting the other parties to that with Albany, Hartford, etc., etc. The consequence of this is, that while the railroad company charges 50 *cents* per 100 lbs., for the 90 miles to New York, the other company transports the same merchandise from Philadelphia to Boston, by way of Albany, a distance of 440 miles, of which 200 are by railroad, 43 by canal, and 197 by river navigation, for 35 *cents.* Here we have a full illustration of the difference between free trade and monopoly. The distance is more than *four times greater*, and the charge is *less by thirty per cent.*, and is still higher than it ought to be, by the whole sum that is exacted by the canal company for the use of its monopoly privileges.—Were that difficulty removed, the charge would not exceed 25 cents, which would make the rate as 9 to 1.

The most remarkable part of the transaction is, however, yet to come. While claiming that they, as managers of the canal, have a right to charge 6 38 per ton, or above 50 per cent. more than the legal toll, those same managers do not admit that the stockholders of the company have a right to claim *from them* even the legal toll. They claim a right, as in the case of the railroad, to farm the canal themselves, and to shut out trade by extortionate demands on transient vessels, while allowing the company less than one dollar per ton, although the company furnishes the steamboats, and performs in reality the whole work of transportation, besides furnishing the use of the canal. The whole amount of toll received for the passage of superior merchandise in the last year, amounting to 109,661 tons, was $74,520, being 68 cts. per ton for *towage, and transportation, and toll*, while a transient vessel, costing the company nothing, would have paid 1 86 per ton *for toll alone.*

The distribution of the price received for the transportation of a ton of general merchandise seems to be as follows:

To the State	15
To the company, for canal, boats, fuel, office expenses, etc., perhaps	1 00
Less toll	15
Balance left to the company	85
Freight at 26 cents per 100 lbs	6 38
Balance to the managers	5 53

It is obvious that this course is in the highest degree injurious to the State and other stockholders, as it diminishes, by three-fourths, the amount of business, while it puts upon them the necessity for expending in boats, fuel, etc., far more than the whole amount received for toll. Such a system cannot

* The length of the canal is 43 miles, and the toll and other charges upon a ton [2000 pounds] of flour would be $1 80, or almost 20 cents per barrel—according to the tariff of April last, which the company has since been compelled to repeal.

long be tolerated, and it cannot be doubted that the question of the right to charge four cents for *toll alone* by a company that is authorised to charge four cents for *toll and transportation* will come up, with results similar to those which have attended the recent trial.

Another question in relation to the canal may be considered as already settled. *Every man that has paid a bill for transportation by it, exceeding, in the slightest degree, four cents per ton of 2240 lbs. per mile, has his remedy for the surplus, and if the bill be not more than a year old, he has also his claim for the penalty.* He is in the same position with those who have paid the overcharges on the railroad, and it behooves him to look up his bills and put them in train for collection, as soon as the Court of Errors shall have affirmed the decision of the Supreme Court.

Such is the system established under the laws of New Jersey, a State that has desired to support its government out of taxation levied upon her neighbors, and yet is the most heavily taxed State in the Union. She plumes herself on the fact that she has no debt, while dragging her peaches through mud and sand where railroads would, but for the monopoly, long since have been made, to reach poor railroads upon which her people are taxed *twenty dollars an acre*, for spending on the road as much time as suffices to prevent them from coming into competition with *those of the railroad owners themselves.* Her taxation is more than is paid by Pennsylvania and Ohio together. Happily, her people are opening their eyes to the fact that such is the case; and the time cannot now be far distant when every county in the State will assert its right to make roads for itself, submitting no longer to a bargain made by one portion of the State, the effect of which has been to deprive every other portion of the means of carrying its products cheaply to market.

A Citizen of Burlington.

Camden and Amboy Railroad and Delaware and Raritan Canal.

Extracts from their Charters.

The charters authorizing the Delaware and Raritan canal, and the Camden and Amboy railroad companies were passed February 4th, 1830.

Section 17 in the canal charter says:

"That the said company are hereby authorized to demand and receive such sum or sums of money for tolls and the transportation of persons and every species of property, whatsoever, on said canal and feeder, as they shall from time to time think proper: *provided*, that they shall not charge more than at the rate of four cents per ton per mile toll for the transportation of every species of property, nor more than five cents per mile toll for the carrying of each passenger on the canal, and not more than half that rate of toll on the feeder; and that the said canal and feeder, and their appendages, and the land over which the same shall pass, and all the works and improvements, and all other property whatever belonging to the company, are hereby vested in the said company incorporated by this act, and their successors, for and during the continuance of this charter; and the shares of the capital stock shall be deemed and considered personal estate."

The canal is deemed a public highway.—Section 20th says:

"That the said canal and feeder, and the works to be erected thereon, in virtue of this act, for the transportation of passengers and freight as aforesaid, when so far completed as to be used, shall be esteemed a public highway, free for the transportation of passengers, or any goods, commodities, or produce, whatever, on payment of the established tolls."

The State may, at the expiration of thirty years, take the canal.

Section 25th says: "That at the expiration of thirty years from the completion of the canal and feeder, the legislature of this State may cause an appraisement of the said canal and feeder, and the appendages thereof, to be made by six persons, three of whom shall be appointed by the governor, or person administering the government of this State, the remaining three by the company, who, or a majority of them, shall report the value thereof to the legislature, within one year from the time of their appointment; or if they cannot agree, they shall choose a seventh, who, with the aforesaid six, shall report as aforesaid, which value shall in no case exceed the first costs of the said canal and feeder, with the lands and appendages thereof, and thereupon the State shall have the privilege for ten years, of taking said canal and feeder, upon the payment to the company of the amount of the said report, within one year after electing to take said canal and feeder."

By an act passed February 3d, 1831, the period when the State was authorized to take the canal, was extended to *fifty*, instead of thirty, years from the time of its completion.

On the same day that the canal company was chartered, the legislature also chartered the railroad company, which, by its 11th section, has power "to lay out and construct a railroad, or roads, with all necessary appendages, from the Delaware river at some point, or points, between Cooper's creek and Newton creek, in the county of Gloucester, in this State to a suitable point or points, to be by them determined on, upon the Raritan Bay." And the 16th section says:

"That the said company are hereby authorized to demand and receive such sum or sums of money, for tolls and the transportation of persons and every species of property, whatsoever thereon, as they shall from time to time think reasonable and proper: *Provided*, that they shall not charge more than at the rate of eight cents per ton per mile, for the transportation of every species of property, nor more than ten cents per mile for the carrying of each passenger; and that the said railroad or roads, and their appendages, and the land over which the same shall pass, and all the works and improvements, and all other property whatever belonging to the company, are hereby vested in the said company incorporated by this act, and their successors, for and during the continuance of this charter; and the shares of the capital stock shall be deemed and considered personal estate."

Section 22d says: "That at the expiration of thirty years from the completion of the said roads, the legislature of this State may cause an appraisement of the said roads, and the appendages thereof, to be made by six persons," the same as in section 25th of the canal.

Section 23d and 24th says: "That from and after the completion of the said road or roads, it shall be the duty of the treasurer of the said company, under oath or affirmation, to make quarterly returns of the number of passengers, and the number of tons of goods, wares, and merchandise, transported upon said road or roads, to the treasurer of this State, for the time being, and thereupon to pay the said treasurer of this State at the rate of ten cents for each passenger, and the sum of fifteen cents for each and every ton of merchandise so transported thereon, and that no other tax or impost shall be levied or assessed upon the said company.

"That if the State of New Jersey shall authorize the construction of any other railroad for the transportation of passengers across this State, from New York to Philadelphia, which road shall be constructed and used, and which shall commence and terminate within three miles of the commencement and termination of the said roads authorized by this act, then the payment of the said sum of ten cents for each passenger, and fifteen cents per ton for merchandise, to the treasurer of this State, shall cease, and the said company is hereby exonerated from the payment thereof: *provided*, that if any other railroad shall be constructed, for the transportation of passengers from Philadelphia to New York, it shall be liable to a tax not less than the amount payable to the State by this company."

Section 26th says: "That the company incorporated by this act, shall be deemed to be within, and subject to the provisions the act entitled 'An act to prevent frauds by incorporated companies,' passed the sixteenth day of February, A. D. eighteen hundred and twenty-nine."

On the 4th of February, 1831, an act was passed relative to the Camden and Amboy railroad and transportation company, section 1st of which says:

"That it shall and may be lawful for the Camden and Amboy railroad and transportation company to transfer one thousand shares of the capital stock of the said company to this State, the instalments on which stock shall be paid by the company, so that the State, neither at the time of such transfer, or at any subsequent time, shall be required to pay any instalment thereon; a certificate of such stock shall be held by the treasurer of the State; and all dividends of the company be declared and payable thereon, as if this State had subscribed for such stock, and paid the several instalments thereon."

And section 3d of this bill—which gives the State *one hundred thousand dollars of stock* in the railroad company—also gives the State "*ten cents* on each passenger carried on the said railroad across the State, between the Delaware river and Raritan bay,—said payment to commence when the said road is so far completed that passengers are transported thereon across the State, instead of a rateable tax for passengers, as reserved in the said act of incorporation."

And section 4th says: "That the appraisement provided for in the twenty-second section of the act of incorporation of the said company, shall be made with reference to the actual value of the said road, and not with reference to the value of the stock; which appraisement shall not, in any event, exceed the actual cost and expenses incurred in the completion of the said road."

Section 6th says: "That when any other railroad or roads, for the transportation of passengers and property between New York and Philadelphia across this State, shall be constructed and used for that purpose, under or by virtue of any law of this State or the United States, authorizing or recognizing said road, that then and in that case the said dividends shall be no longer payable to the State, and the said stock shall be re-transferred to the company by the treasurer of this State."

Section 7th says: "That it shall not be lawful to construct any other railroad or roads, for the transportation of passengers across this State, within three miles of the road of the said Camden and Amboy railroad company, until after the time limited in the twenty-first section of the act of incorporation of said company, for the completion of the said railroad."

On the 15th of February, 1831, another act was passed *consolidating* the two companies, by which the stock was made *joint* stock, and they were made jointly liable for all debts, in this way the canal was hitched upon the railroad, and its completion ensured, and by this act the rates of passenger fare was reduced from ten cents per mile to "not more than three dollars for transporting passengers from, and to, the cities of Philadelphia and New York."

This, however, was not the *end* of legislation in relation to these works—for we find that another act was passed March 2d, 1832, which authorized the transfer of another one hundred thousand dollars of stock in the *joint* companies—on which the instalments were paid up in full—and for which consideration the "last nail was driven in the coffin" of New Jersey! as the 2d section says:

"That it shall not be lawful, at any time during the said railroad charter, to construct any other railroad or railroads in this State, without the consent of the said companies, which shall be intended, or used, for the transportation of passengers or merchandise between the cities of New York and Philadelphia, or to compete in business with the railroad, authorized by the act to which this supplement is relative: Provided always, that nothing in this act shall be so construed as to prevent the construction of a railroad from the city of New Brunswick to the Hudson river, or any lateral road that may be hereafter authorized by an act of the legislature

from a suitable point or points, intersecting said road, to be designated and agreed upon by the said companies; or any lateral road or roads, not intended or used for the purpose of competition as aforesaid."

And the 3d section says: "That if within one year from the time that the said railroad from Bordentown to Amboy, is so far completed that passengers and merchandise be transported thereon, the transit duty reserved by the acts incorporating said companies, and the dividends on the stock hereby authorized to be transferred, shall not amount to thirty thousand dollars, it shall be the duty of the said companies to pay such deficiency to the treasurer of this State, out of the joint funds of the said companies, before any dividend is made to the stockholders, and that each and every year thereafter, such deficiency, if any shall exist, shall be paid by the said companies, so as to secure to the State the aforesaid sum of thirty thousand dollars, at least, in each and every year during said charter."

Section 4th says: "That in declaring and making dividends of the net profits, the president and directors of the said companies shall declare and divide the whole of the actual net profits accruing to the time of such dividend, retaining only such surplus funds as may be deemed requisite to meet unexpected and extraordinary damages to the works respectively, which surplus funds shall in no case exceed, in the whole, the sum of one hundred thousand dollars."

Section 5th says: "That the State shall be entitled to the appointment of one director to represent the said stock, but that no vote shall be given for said stock at any elections of the stockholders."

Great Western (Canada West,) Railroad Co.

We took from the Hamilton (C. W.,) Spectator of 7th June, the following report of the directors of this company. It does not show quite as much progress as we anticipated when we published the able report of the chief engineer, C. B. Stuart, Esq.—last year—yet there is nothing in its present condition to dishearten its friends, but much to encourage them to further and renewed exertion.

We agree fully with the editor of the Spectator in his remark, that the subject "is deserving of the earnest attention of the Canadian public."

He says that "the labor performed by the company during the past year has been much greater than is generally imagined, and the prominent position which the work occupies will enable the directors to take advantage of the first favorable change in the money market, and thus ensure an early completion of the undertaking."

We cannot believe that the Canadian government will permit this work long to lag, for want of funds—even if the people find it inconvenient to carry it through as a private work—and we therefore say to those who have it in charge, and at heart, keep the fires burning—and keep it before the people. They will soon come to your aid, and the work will be completed.—The report says:

Pursuant to public notice, a meeting of stockholders in the Great Western railroad company was held in the court house in the city of Hamilton, on Wednesday, the 5th of June, for the purpose of electing seven persons to be directors of the said company for the ensuing year:—

John Wythe, Esq., of Barton Lodge, was called to the chair, and J. T. Gilkinson, Esq., requested to act as secretary.

The following report of the directors was then read:—

Report of the Directors of the Great Western Railway Company, to the Stockholders, at the Annual Meeting, on the 5th of June.

The directors beg leave to report, for the information of the stockholders, that since the last annual meeting, the survey and location of the whole line of road have been completed, under the superintendence of C. B. Stuart, Esq., the chief engineer, who, in his final report, dated the 1st of September last, has given full information on this part of the undertaking. The board cannot do better than refer to that report for the interesting details.

In the opinion of the board, it is sufficient on this occasion to state that their most sanguine hopes have been more than realized by the result of the survey. As the most extensive privileges are granted to the company by its charter, in locating the line, permitting it to select the best route between the Niagara and Detroit rivers, observing simply the two points of Hamilton and London; it became the duty of the engineer to explore the whole coutry lying between these rivers, in the course of which more than 1,500 miles have been fully and carefully examined. It may therefore be said with perfect confidence, that the best line has been selected which the country offers. When the importance of a thorough survey is considered, with reference to this important object, the directors feel confident that the stockholders will approve of their conduct, although it has been attended with some expense. The board are not aware of any road of similar extent having been located at so small an outlay, or in less time than this.

The entire distance from the Niagara to the Detroit river, is 227·80 miles: the length of the branch to Port Sarnia is 49·89 miles; making in the aggregate, 277·74 miles. The main line is so nearly direct as to measure less than four miles longer than an air line. The maximum grade in going westward, is 45 feet in the mile, and this grade is less than 12 miles in continuous extent. The maximum grade in going eastward, (the direction in which the heaviest loads will proceed,) is 20 feet in the mile. Ninety-five per cent. of the whole line is perfectly straight, and two-thirds of the remaining five per cent. are on curves, of which the radii varies from 5,730 to 11,560 feet: 183 miles are either level or contain no grade more than five feet in the mile: 54 miles present slopes less than 20 feet in the mile.

The cost of the main line is estimated at £1,238,520, and of the Port Sarnia branch, £166,410, making in all, £1,404,930. This estimate includes interest at 6 per cent. during the time required for construction. The greater portion of the right of way has been secured, in most instances, by free grants from the owners of land along the route, and the remainder can be had at moderate rates. Sufficient depot grounds, varying in extent from 12 to 30 acres each, have likewise been obtained at all desirable points, which were in all instances free grants to the company. When the extent and value of these lands are taken into account, they form no inconsiderable item in the cost of a road of this length, touching at and entering such important points of navigation, as well as centres of business, in the province.

The directors deeming it of much importance to test the correctness of the engineer's estimate, in order that the present and future stockholders might be assured that the capital stock of the company would be more than sufficient to cover the expense of constructing the road, concluded to offer the entire line for tender, and they have the pleasure of informing the stockholders that it is all placed under contract at rates within the estimates, to good and responsible parties, who have agreed to take from 25 to 30 per cent. of their contracts in the capital stock of the company. By comparing the terms on which the road has been let, it will appear that its cost will be much less than any other line of equal extent and character in America.

The contractors broke ground at London, St. Catharines, the Niagara river, and the city of Hamilton, but from want of funds, caused by the unexpected pressure in the money market, they have been compelled to suspend operations, excepting at the latter place, until a more favorable period. The disbursements in this city have been expended in the construction of wharves, required for the use of the company, which are now in a forward state.

In consequence of the extraordinary pressure existing in England in financial affairs, and a general depression in railway stocks in that country, the directors have entered into a new agreement with the corresponding committee in London, by which the committee retain 10,000 shares of the capital stock, and surrender to the company the remainder of the stock held by them, together with the powers conferred upon them by the amended act, in consideration of their having at the time held so large a proportion of the stock. Of the stock so surrendered, a portion amounting to £250,000 has been taken up by the contractors, and it is confidently hoped that the balance will be taken up in Canada and the United States, so soon as the money market regains its accustomed position.

The directors have, on several occasions, endeavored to press upon the imperial and colonial government the importance and necessity of a general system of railways in this country, in order to place the province upon an equal footing, with regard to internal communications, with the adjoining States, and in connection with an enlarged system of immigration, but as yet their efforts have not been attended with success. They cannot but feel, however, that by persevering in this object, a practical result will be attained, as the aid asked for this work cannot possibly become a charge either to the government or the country. The best mode of relieving the mother country of its redundant population, is by an efficient and well digested plan of emigration; and the only way to furnish these emigrants with immediate employment, upon an extended scale, is by public works. In any such system, the Great Western railway, from its position, and the benefit it will confer upon the province, must form a leading part.

During the last session of the provincial parliament, the directors petitioned the legislature for adequate aid in the construction of

this work, and of a continuous line from this city to Montreal. The petition was referred by the house of assembly to the standing committee on railways, who made a very favorable report, recommending the extension of legislative assistance, but owing to the session having been brought to a premature close, the subject was not further acted upon. The directors recommend that a similar effort be made at the next session of parliament. As the question is not of a purely local nature, but is one in which the whole province is interested, it may reasonably be hoped, that with due attention, in pressing its merits upon the provincial government, it will meet with that consideration and support which its importance demands.

In all countries where railways have been constructed to a considerable extent, they have received at various times legislative or governmental aid, and the beneficial influence which they have had upon the general prosperity has fully proved the wisdom of such assistance.

The stockholders are aware, that in former years, other lines, running nearly parallel, have been projected simultaneously with this road; and with a view of concentrating the public interest upon a single line, the directors have, during the past year, made arrangements with the Niagara and Detroit rivers railroad company, by which that company engages to suspend all action until the year 1850, and ultimately to abandon their project, provided the Great Western company do by that time secure the making of their road. One of the conditions undertaken by this company was, to pay a portion of the expense formerly incurred by the Niagara and Detroit rivers' railroad company, in their surveys, to the extent of £1,000, which has been nearly fulfilled by this company, as will be seen by reference to the financial statement, to be exhibited this day.

The stockholders will also perceive by this statement, that the company have expended, on different sections of the work, the sum of £18,000. The directors hope that the expenditure will be found to have been made judiciously, and with a due regard to economy. The value of the land acquired for this line of road, and the depot grounds, independent of the scientific information gained by the careful and laborious survey of the road, is, without doubt, much beyond the whole expenditure. As an instance in support of this opinion, the directors beg leave to state that the depot grounds granted at Windsor, one of the western termini, are equal in extent and accommodation with those on the opposite bank of the Detroit river, for which the Central railroad company of Michigan expended, not long since, as the directors are informed, the sum of £35,000.

The Niagara Falls Suspension Bridge company, in the State of New York, and the company in this province, having come to a mutual agreement, let the contract for building the bridge, and the contractor, Mr. ELLET, is now vigorously prosecuting that great work. A wire was extended over the Niagara river early in March last, which, since then, has been much used as a means of transit for passengers, as well as building materials. The engineer, Mr. ELLET, intends to complete his contract, so far as to allow the passage of carriages, by the 1st day of August next. As this bridge is situated at the eastern termini of the Great Western railroad, it will be of incalculable advantage in connecting with the line of railway from thence to Boston and New York. The directors have entered into a favorable arrangement with the proprietors, to strengthen the bridge, so as to admit of the passage of railway trains over it.

The directors have also the pleasure of informing the stockholders, that the company chartered by the State of New York to construct a railway from Rochester to the suspension bridge direct, have placed their whole line under contract, and there is no doubt that it will speedily be completed.

In the west the Central railroad company of Michigan are proceeding with the greatest rapidity, in completing their road to Chicago, from whence a company has been formed, to extend it to Galena, on the Mississippi river. There cannot, therefore, be a doubt, that by the time the Great Western railroad is finished, if it be done never so soon, the whole chain of railway, from the Atlantic to the Mississippi, will be completed. In view of these facts, the utmost energy is called for on the part of this company, so that it may not be behind in accomplishing its portion of the most magnificent and important line of railway in the world.

ACCOUNTS.—ABSTRACT STATEMENT.				Dr.		
To expenses of preliminary survey from 1835 to 1847, including instruments	£2,510	4	3			
To do., of permanent surveys, engineer department, under Mr. Stuart, chief engineer, to date				6,480	11	2
To office expenses, furniture, rent, salaries, print'g, stationery, postages, etc.				2,450	13	6
To agents to England, United States, and Canada; lands, right of way, and other contingencies				2,525	17	8
To grading, timber, masonry, etc.				3,389	14	5
To Niagara and Detroit rivers' railroad Co., on acc't, as per agreement.				656	8	9
To balance, cash in bank B. N. A	£131	8	3			
To corresponding com., London	3,388	14	3			
To bills receivable	341	5	0			
				3,861	7	6
				21,874	17	3
				Cr.		
By cash and bills receivable on shares.				10,696	2	11
By interest on deposits in bank of British North America				135	19	9
By stock, capital of the company, payable for right of way and lands				350	0	0
By stock, capital of the company, payable to contractors, being 25 per cent. of their estimates				692	14	7
				21,874	17	3

Moved by J. B. Ewart, Esq., of Dundas, seconded by Mr. David Totten, of Paris—

Resolved, That the report of the directors, which has just been read, be adopted; and that the thanks of the stockholders are due, and are hereby given to them, for the manner in which they have conducted the affairs of the company.

Moved by Sir A. N. McNab, seconded by P. Carroll, Esq.—

Resolved, That R. R. Smiley, Esq., and the Hon. C. B. Stuart, be requested to act as scrutineers.

The election of directors was then proceeded with, and the following gentlemen duly chosen:

Sir Allan N. McNab, of Dundurn, George S. Tiffany, Esq., Robert W. Harris, Esq., Peter Carroll, Esq., Henry McKinstry, Esq., of Hamilton, Jas. Hamilton, Esq., M. D, of West Flamboro', and Wm. H. Merritt, Esq., of St. Catharines.

We, the undersigned, declare the above named gentlemen duly elected as directors of the Great Western railroad company.

Signed, ROBERT S. SMILEY.
CHARLES B. STUART.

Court House, Hamilton, June 5, 1848.

JOHN WHYTE, *Chairman.*

Mr. Hatt having intimated a wish to retire from the board, as he holds the office of solicitor to the company, W. H Merritt, Esq, was unanimously elected in his stead.

The thanks of the meeting were then given to Mr. Whyte for his conduct in the chair.

J. T. GILKISON, *Secretary.*

At a meeting of the directors, subsequent to the above, Sir Allan N. McNab, and Geo. S. Tiffany, Esq., were elected respectively president and chairman of the company.

J. T. GILKISON, *Secretary.*

Great Western R. R. Office,
5th June, 1848.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 18th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	9,144 01	98,654 15
By Room Run	3,730 11	53,244 14
By Hazleton	3,752 00	40,652 00
By Beaver Meadow	3,806 00	33,470 00
By Spring Mountain	2,307 17	29,726 13
By Buck Mountain	2,848 10	31,926 09
By Cranberry Mines	886 00	4,250 00
White Haven	721 06	1,815 01
Total	27,196 05	293,754 12

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 20th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	14,595 15
" Pottsville	5,962 03
" Port Carbon	10,239 17
" Port Clinton	3,554 04
Total this week	35,351 19
Total this year	675,412 06

The amount of coal brought to market by the Schuylkill canal during the week ending the 20th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	9,675 14
" Schuylkill Haven	4,520 08
" Port Clinton	397 11
Total this week	14,593 13
Total this year	191,422 02

Recapitulation.—Total Shipments this Season.

By Lehigh companies	295,754 12
By Reading railroad	675,412 06
By Schuylkill canal	191,422 02
Total	1,162,589 00

Western Railroad Company--Twelfth Annual Report.

Capital stock	$5,150,000 00
Increase of capital stock since last report	1,750,000 00
Capital paid in per last report	3,400,000 00
Capital paid in since last report	600.000 00
Total amount of capital stock paid in	4,000,000 00
Funded debt per last report	4,999,555 56
Funded debt paid since last report	
Funded debt, increase of, since last report	319,964 44
[This item is for the difference between $4 44 per pound on £899,900 sterling, as originally entered in the books of the corporation, and $4 80 per pound, as now corrected, to meet the liability of the corporation.]	
Total present amount of funded debt	5,319,520 00
Floating debt, per last report	
Floating debt paid since last report	
Floating debt, increase of, since last report	
Total present amount of floating debt	
Total present amount of funded and floating debt	5,319,520 00
Average rate of interest per annum on do	About 5¼ per ct.

COST OF ROAD AND EQUIPMENT.

For graduation and masonry, per last report	3,154,039 86
For graduation and masonry paid during the year	95,736 90
Total amount expended for graduation and masonry	3,249,776 76
For bridges, per last report	193,736 23
For bridges, paid during the past year	21,306 48
Total amount expended for bridges	185,042 71
For superstructure including iron, per last report	1,051,033 46
For superstructure, including iron, paid during the past year	136,338 66
Total amount expended for superstructure, including iron	1,190,372 12
For stations, buildings and fixtures, as per last report	250,332 01
For stations, buildings and fixtures, paid during the past year	19,502 29
Total amount expended for stations, buildings and fixtures	268,834 30
For land, land damages and fences, per last report	277,006 16
For land, land damages and fences, paid during the past year	9,002 55
Total amount expended for land, land damages and fences	280,608 71
For locomotives, per last report	418,978 14
For locomotives, paid during the past year	66,681 05
Total amount expended for locomotives	485,659 19
For passenger and baggage cars, per last report	55,066 49
For passenger and baggage cars, paid during the year	9,204 35
Total amount expended for passenger and baggage cars	
For merchandize cars, per last report	64,270 84
For merchandize cars paid during the past year	370,548 01
Total amount expended for merchandize cars	39,613 63
Total amount expended for gravel and band cars	410,161 64
For engineering and other expenses, per last report	655,850 61
For engineering, and other expenses, paid during the past year	175,256 73
Total amount expended for engineering and other expenses	841,107 34
Total cost of road and equipment	6,982,233 61
[Total cost of Albany and West Stockbridge railroad, built and leased by Western railroad]	1,787,240 16

CHARACTERISTICS OF ROAD.

Length of road	117·804
Length of single track	98·960
Length of double track	18·844
Length of branches owned by the company, stating whether they have a single or double track	
Weight of rail per yard in main road	56½ and 70 lbs.
Weight of rail per yard in branch roads	
Maximum grade, with its length in main road	83ft. per mile; 1¼ miles.
Maximum grade, with its length in branch roads	
Total rise and fall in main road	2085ft.
Total rise and fall in branch roads	
Shortest radius of curvature, with length of curve in main road	882ft.; 490ft. in length.
Shortest radius of curvature, with length of curve in branch roads	
Total degrees of curvature in main road	6370ft.
Total degrees of curvature in branch roads	
Total length of straight line in main road	62·935
Total length of straight line in branches	
Aggregate length of truss bridges	6092¼ft.
Whole length of road unfinished on both sides	

DOINGS DURING THE YEAR.

Miles run by passenger trains	236,677
Miles run by freight trains	513,772
Miles run by other trains	68,961
Total miles run	819,010
Number of passengers carried in the cars	388,111
Number of passengers carried one mile	17,867,644
Number of tons of merchandise carried in the cars	274,691
Number of tons of merchandise carried one mile	28,037,628
Number of passengers carried one mile, to and from other roads	9,485,378
Number of tons carried one mile to and from other roads	22,326,296
Average rate ot speed adopted for passenger trains, including stops	
{ Springfield and Worcester	26 miles.
{ " Albany	20 miles.
Average rate of speed adopted for freight trains, including stops	10 miles.
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile	10,650,465
Estimated weight of merchandise trains, including engine and tender, but not including freight, hauled one mile	52,404,744

EXPENDITURES FOR WORKING THE ROAD.

[For repairs of Albany and West Stockbridge railroad]	18,921 23
For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron	131,857 98
For repairs of truss bridges	16,650 42
For renewals of iron, including laying down	29,119 09
For wages of switchmen, gate keepers and flagmen	
For removing ice and snow	2,763 45
For repairs of fences, gates, houses for flagmen, gate keepers, switchmen, tool houses	
Total for maintenance of way	199,312 08

MOTIVE POWERS.

For repairs of locomotives	40,050 12
For new locomotives to cover depreciation	12,000 00
For repairs of passenger cars	11,164 66
For new passenger cars to cover depreciation	4,600 00
For repairs of merchandise cars	45,796 37
For new merchandise cars to cover depreciation	10,500 00
For repairs of gravel and other cars	
Total for maintenance of motive power	124,111 15

MISCELLANEOUS.

For fuel and oil	135,545 08
For salaries, wages and incidental expenses, chargeable to passenger department	27,711 42
For salaries, wages and incidental expenses, chargeable to freight department	92,537 29
For gratuities and damages	17,518 46
For taxes and insurance	4,598 89
For ferries	7,631 56
For repairs of station buildings, aqueducts, fixtures, furniture	29,625 44
For interest	264,854 53
For amount paid other companies, in tolls for passengers and freight carried on their roads, specifying each company	
For amount paid other companies as rent for use of their roads, specifying each company	
For salaries of president treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items	38,198 38

INCOME DURING THE YEAR.

For passengers:—	
1. On the main road exclusively, including branch owned by company	502,321 92
2. To and from other roads, specifying what:	
For freight:—	785,345 66
1. On main road and branches owned by company.	212,515 18
2. To and from other connecting roads:	582,830 48
U. S. mails, rents	37,668 48
Total income	1,325,336 06
Net earnings after deducting expenses	

DIVIDENDS.

	303,000 00
Surplus not divided	81,791 78
Surplus last year	104,011 99
Total surplus	185,803 77

ESTIMATED DEPRECIATION BEYOND RENEWALS, VIZ:

Road and bridges	52,000 00
Buildings	
Engines and cars	

During the period covered by this return, the following fatal accidents, or serious injuries, have occurred to brakemen and other persons, employed upon said railroad, viz:

Fatal Aecidents.—Reuben Coburn was thrown from a freight train, by the wire of the telegraph, which had fallen over the track and lost his life by the train passing over him.

Sylvester Gilbert was killed by being crushed between the cars of a freight train.

H. Cooning was killed in attempting to get upon a train in motion.

Charles O'Brien, John Green and Thos. Green, were run over by freight trains, and killed.

—— Clough, and ——— Johnson, were killed, while on freight trains, by coming in contact with bridges.

——— Forbes was found dead upon the track—cause of death not known.

Serious Injuries.—J. M. Putnam was obliged to have his arm amputated for a injury caused by a fall from a freight train.

D. Mahanna was injured by a collision of cars at Dalton, and has had a leg amputated.

Fowler Hudson, in consequenee of an injury received on a freight train, has had his leg amputated.

J. Holland had both of his legs broken by collision while he was on a gravel train.

Patrick Draper was run over by a freight train, and his arm amputated.

Addison Gilmore, James Russell, Stephen Fairbanks, Ab'm H. Howland, Josiah Stickney, John Howard, Jona. Chapman.—*Directors.*

Report of the Commissioners of the Sinking Fund of the Western Railroad.

The commissioners of the sinking fund of the Western railroad, in compliance with the directions of the statute of March 13, 1839, submit the following report of their proceedings for the past year, of the amount and condition of the said fund, and of the income of the several parts thereof.

The amount of the fund on the 31st day of December, 1846, as per commissoner's report to that date, was	349,242	42
Received for int. and dividends	20,350	29
Received from the treasurer of the Western railroad corporation	40,000	00
	309,592	71

The investments are as follows:

On notes secured by mortgages	235,500	00
29,000 dolls. U. S. 5 per ct. stock	29,860	00
7,000 do. 6 do.	7,000	00
110 shares Providence railroad stock	9,500	00
122 shares Worcester do.	14,096	96
44 shares Lowell do.	26,298	75
200 shares Old Colony do.	20,864	50
£14,100 Massachusetts Sterling bonds	66,358	80
Cash on hand	113	70
	409,592	71

If there be added to this the interest accrued, but not due, it will amount, on the 1st of January, 1848, to $416,168 71, which will be the whole amount of the fund on that day.

JOSIAH QUINCY, JR.,
JOSEPH BARRETT,
Commissioners.

Wabash and Erie Canal.

We continue the report of Mr. Williams, chief engineer, upon the condition of this work, as we wish to put it on record for future reference. It gives some facts which will be found worth remembering and refering to.

A.—*Description of the Wabash and Erie Canal, and the mechanical structures thereon, showing their condition on the 1st of July, 1847.*

Commencing on the east line of the State, the first mechanical structure is a small culvert constructed of timber. The cross section is of a rectangular shape, 10 feet wide by 18 inches in height. The whole of the timber is at all times under water, by which the air is excluded, and the structure thus rendered as permanent as if built of the most durable stone. This I designate culvert No. 1.

The next structure is lock No. 1, situated at Saylor's house, near one half mile west of the State line. This lock is 7 feet lift, and built of timber upon what is called the *frame plan.* It will last some three years, which brings its renewal, say in 1850. The gates will probably require rebuilding at the same time.

Proceeding westward, the next structure is a small rectangular wooden culvert, (No. 2) one mile from State line: the cross section 10 feet by 18 inches. The whole of this timber is likewise submerged, and therefore durable.

Next we find culvert No. 3, cross section 10 feet by 18 inches, built of timber, the whole of which is submerged, and therefore permanent.

Culvert No. 4.—Two miles from the State line, 10 feet by 18 inches, built of timber and submerged.

Culvert No. 5, is a submerged wooden culvert, cross section 10 feet by 18 inches.

Culvert No. 6—10 feet by 18 inches, built of wood. The covering timber is partly exposed to the air. To raise the water permanently over it, will cause the expenditure of about $10.

Culvert No. 7—10 feet by 18 inches, of wood, and submerged.

The next structure, in proceeding west, is a large wooden culvert for the passage of Garr creek, 11 miles east of Fort Wayne. This culvert (No. 8) is formed of three separate openings, each 12 feet wide and 3 feet high, built of wood. The whole of the timber is at all times below the water of the creek, and is therefore free from decay.

Culvert No. 9—of wood, 10 feet by 18 in. submerged.

Culvert No. 10—ten feet by 18 in., formed of timber, submerged.

Culvert No. 11—built of wood, 10 feet by 18 inches, submerged.

The next structure is lock No 2—7 feet lift, 8 miles east of Fort Wayne. This lock, like the one first described, is built of wood, on the *frame plan,* and will last three or four years. The gates must be rebuilt during the ensuing winter.

Culvert No. 12—over 7 mile creek, two spans, each 12 feet by 3 feet, built of wood, and the whole of the lumber under water. The dam below the culvert is slightly worn down, and will require an expenditure of 10 dollars, to secure the culvert from decay.

Culvert No. 13—of wood, 10 feet by 18 inches, submerged.

The next structure is road bridge No. 1, for the State road crossing at New Haven, which will need rebuilding in about two years.

Culvert No. 14, for the passage of 6 mile creek, consists of six spans, 12 feet wide by 3 feet high, built of timber, the whole of which is submerged by means of a small dam below. At the upper end of this culvert the drift wood accumulates in time of floods, requiring a small annual expense in clearing it away.

Road bridge No. 2, will need rebuilding in 1850.

Culvert No. 15, a wooden culvert, 6 feet by 18 inches, submerged.

Culvert No. 16, of wood, 10 feet by 18 inches, submerged.

Culvert No. 17, same size, and built of the same material, submerged.

Raad bridge No. 3, at McDonald's mill, needs rebuilding in 1849.

Culvert No. 18, built of timber, 10 feet by 18 inches, submerged.

Culvert No. 19, of wood, 4 feet by 18 in., submerged.

Culvert No. 20, of wood, 10 feet by 18 in., submerged.

Culvert No. 21, built of wood, 6 feet by 18 inches, submerged.

Culvert No. 22, of wood, 10 feet by 18 inches, submerged.

The next structure is lock No. 3, which is the first lock east of the summit and terminates the summit level in that direction. It is 6½ feet lift and is built of *cut stone;* the stone seem to have withstood the action of the frost very well, much better than most other stone locks on the canal. It may be considered a good and permanent lock for some years to come. The gates will need renewing during the ensuing winter. This lock is one mile east of Fort Wayne.

Road bridge No. 4, at Hanna's mill, will need rebuilding probably in 1849.

Culvert No. 23.—This is a small rectangular culvert, built of stone.

Road bridge No. 5, for the state road crossing the Maumee at the junction of the St. Josephs and St. Marys rivers, and just at the site of Wayne's Fort. This bridge will need rebuilding in 1848.

Culvert No. 24, at Barr street built of wood, 4 feet by 2, not fully submerged.

Road bridge No. 6, for the crossing of Barr street, in the town of Fort Wayne. This bridge has recently been rebuilt by the town authorities and citizens, and will probably last for 8 years, without much further cost. One new floor will be required within that time.

The next structure is culvert No. 25, at Clinton street, 4 feet by 18 inches, of wood, submerged.

Road bridge No. 7, at Calhoun street.—Rebuilt in 1846 at the expense of the citizens. Permanent for 8 years, with the expense of one new floor within that time.

Culvert No. 26, for the passage of a run

in the town of Fort Wayne, 12 feet by 3, of wood, submerged. This culvert is under a basin, and is twice the usual length.

Road basin at Ewing street, No. 8, will last some 4 or 5 years, say till 1851.

Culvert No. 27, near Ewing's warehouse, a stone arch of 6 feet chord in good condition.

The next structure is aqueduct No. 1, over the St Marys river, of two spans, each 80 ft. in the clear. The trunk is of timber, 17 ft. wide, suspended by means of iron rods to the arches and truss frame. The weight of the trunk is sustained by arches made of three inch oak plank footing on a chord of similar construction. The arches and chords are attached to, and firmly connected with a strong truss frame of oak timber. The chords rest on the coping, at a height of six feet above the canal bottom, so that every part of the structure, excepting merely the trunk, is quite above the water, in the canal, and by being roofed and weather boarded, is secured against decay. The piers and abutments are of cut stone masonry. The abutmen's, though strongly built, were imperfectly grouted and puddled, and from this cause are liable to leakage. Constant watchfulness will be required for a time to guard against a breach around the abutments, which might be caused by this imperfection. Some additional protection of stone is required around the foundations, to guard against undermining by the floods. Owing to a sudden curve in the canal at the west end of the aqueduct, cribs of timber filled with stone must be erected to prevent injury from the concussion of boats. Besides these small expenditures there is reason to anticipate but little expense at this point for 10 years to come. The whole structure was newly erected in 1845–6.

About half a mile west of the St. Marys aqueduct the St. Joseph feeder is received, the structures connected with which will be described in another part of this report.

Near the mouth of this feeder is a bridge (No. 9) used for the purpose of crossing the towing path, which here changes from the north to the south side. This bridge is nearly new, and will need rebuilding probably not before 1854.

Bridge No. 10, for crossing of Yellow river road, should be rebuilt during the ensuing year.

The safety of the summit level during floods, required that a set of waste gates be erected during the ensuing winter at a point one half mile west of the mouth of the feeder.

Culvert No. 28, one and a half west of Fort Wayne, built of wood, 6 feet by 18 in., submerged.

Culvert No. 28, near east end of wet prairie, of wood, two spans each 10 feet by 18 inches. The bed of the stream below this culvert requires raising 6 inches, at a cost of about $10, for the purpose of submerging the timber and rendering it durable.

Five miles west of Fort Wayne, the canal crosses Marais Du Perches, by means of a towing path bridge, with a waste wier and sliding gates for the passage of its floods.—This structure is much decayed and must be rebuilt, or a different structure submitted for for it within the next year.

Culvert No. 30, 7 miles west of Fort Wayne, 10 feet by 18 inches, of timber, submerged.

Culvert No. 31, of wood, two spans, each 10 feet by 18 inches, submerged.

Culvert No. 32, of wood, 10 feet by 18 in., submerged.

Road bridge No. 11, at Mrs. Vermilya's, nearly new, may last 7 years.

The next structure is aqueduct No. 2, over the river Aboite, of four spans, each 28 feet clear. The trunk is of wood resting on two abutments and three piers, all of good cut stone masonry. This structure is entirely new, having been rebuilt in 1846, and will probably require but little expense for 8 or 10 years to come.

Not far below the aqueduct is road bridge No. 11, nearly new, may last 8 years.

Culvert No. 33, 12 miles west of Fort Wayne, is built of wood, 10 feet by 18 inches, submerged.

The next structure is culvert No. 24, a large wooden culvert, over Calf creek, of two spans, each 10 feet wide and 5 feet high, of rectangular shape. The covering timber of this culvert has been exposed to the air since its erection in 1833 and must be partially decayed, still it has strength enough to sustain the weight, if the decay were now checked. I would therefore recommend that a dam be erected just below the culvert and made water tight, so as to submerge the whole structure. This may cost $100, but it will be far more economical than a renewal of the culvert which, otherwise, will be necessary within 2 or 3 years.

Culvert No. 35, is of timber. 10 feet by 18 inches, submerged.

Culvert No. 36, over Cow creek. This is a large wooden arch of 18 feet chord, semicircular. A structure of this size and shape could not be submerged, and the arch timbers have therefore been exposed to the air. Experience shows, however, that timber thus situated under a most bank of earth, is not subject to rapid decay, and it is believed that this arch may stand 3 or 4 years longer, when it should be rebuilt of cut stone. The head walls will need some repairs within 2 years.

The next structure is lock No. 4, 15 miles west of Fort Wayne. This is the first lock west of the summit, and terminates the summit level. It is 10 feet lift, built upon the *wooden frame plan.* It was renewed about 4 years ago, is now in good order, and will last probably 4 or 5 years longer without much expense—gates will last 3 years.

Not far below this lock is road bridge No 13, which will last 6 or 7 years.

Culvert No. 37, 10 feet by 18 inches, of wood, submerged.

Road bridge No. 14, at Port Mahon. This is a longer and more costly bridge than ordinary. It will stand 2 or 3 years, but the planking should be renewed during the ensuing winter.

Culvert No. 38, of wood, 10 feet by 18 in., submerged.

Culvert No. 39, opening 10 feet by 18 in. built of timber, submerged.

Culvert No. 40, of wood, 10 feet by 18 in., submerged.

The next structure is aqueduct No. 3, over Bull creek. It has one span of 28 feet, the trunk is of wood, and rests on 2 stone abutments. The trunk was built anew, 2 years since, is in good order, and will last for 7 or 8 years. The masonry is not very perfect, but will probably stand and answer the purpose for several years to come. It is about 5½ miles east of Huntington.

Culvert No. 41, 10 feet by 18 inches, built of wood and submerged.

Road bridge No. 15, 4 miles east of Huntington, is the next structure; will need rebuilding in 1848.

Culvert No. 42, 10 feet by 18 inches, of timber, submerged.

Culvert No. 43, 10 feet by 18 inches, of wood, submerged.

Aqueduct No. 4, over Flint creek, one half mile east of Huntington, is the next structure. It has one span of 28 feet, trunk of wood, abutments of stone, but of imperfect quality, yielding to the action of the weather. This masonry will doubtless require some repairs within two or three years. The trunk is nearly new and may last 7 years.

Within the town of Huntington, there are two road bridges crossing the canal, Nos. 16 and 17, both of which need rebuilding during the ensuing year.

Commencing at the upper part of Huntington, and between that point and the feeder introduced from the Wabash, below the forks, a distance of two miles, there are six locks, numbering 5, 6, 7, 8, 9, and 10, counting from the State line; each of which is 9 feet lift, excepting Nos. 6 and 7, which are of 8 feet lift. One of these locks, No. 7, is constructed upon what is called the *combined or composite plan;* the walls of this lock are good, and the plank facing, having been renewed some four years since, will stand without expense for five or six years more, when it must be renewed. The other five locks may all be described under one statement.—They were built upon the *wooden crib plan;* the cribs filled with earth, gravel and stone and faced with two inch plank. They were constructed in 1835, and the timber is of course considerably decayed. The upper course in places, and in some places the two upper courses, have been renewed. By renewing the remainder of the two upper courses, and in some parts, the third course, during the ensuing winter, it is supposed these locks may last for two seasons more, but after that must be rebuilt. Between this time and the spring 1851, the expense of rebuilding these five locks must be incurred. It is proposed to rebuild them upon the *combined or composite plan,* using undressed but strong and durable stone, laid on dry walls—the face of the walls being made water tight by a lining of plank. The cost of rebuilding a lock on this plan, including the removal of the old structure, will be about $5,000. The repairs proposed to be made during the ensuing winter, will probably cost

$150, to each of the five locks. Besides this, there is in all this flight of locks, one full set of lock gates required to be built the ensuing winter, the other gates are all nearly new, and will last perhaps four years.

To be continued.

Camden and Amboy Railroad Company's Address to the People of New Jersey.

We have before us, received since our last, a copy of the address of the directors of this company, bearing date June 11th, 1848. The copy for this number of the Journal was mainly in the hands of the printer when the address came to hand, or we should have given it this week. It will be published entire next week—without comment—as we desire the managers to speak for themselves: and that our readers should give their defence—or appeal—a dispassionate, and careful, perusal.

We will, however, now make *one* observation in relation to their remarks upon "*the press*," and that is—that no company, or association of men, in *this* country, owes more to the press—*to its forbearance*—than the *Camden and Amboy railroad company.*—They may not fully appreciate it, but it is, nevertheless, *true;* and they may yet learn that "forbearance"—especially when not appreciated—*sometimes "ceases to be a virtue."*

Railroad Freight and Fares on Sixty-eight Railroads.

We again insert the article published in our last week's Journal, on the comparative rates of freight and fare; and make the special request of every one who finds errors in it, to point them out by letter at once.

Eastern railroad, Boston to Portland, 105 miles—freights on groceries, grain, iron, butter and drygoods, $3 55 through, or 3·4 cts. per mile; light and bulky articles, $5 through, or 4·76 cts. per ton per mile; fare, $3 through, or 2 85 cts per mile.

Boston and Maine road, Boston to South Berwick, 72 miles—freight, salt, sugar, groceries, iron, and coal, $1 76, or 2·14 per ton per mile; light and bulky articles, $2 88, or 3·5 per ton per mile; one horse, $3 62: two do., $5 43: one horse carriage, $2 71: two do. do., $3 62: four do. do., $5 43; fare, $1 62 through, or 2·25 per mile.

Lowell railroad, 26 miles—merchandize generally, $1 25 per 2,000 lbs.; by cargo through, 1 10; passenger fare, 56 cts., or 2·15 cts. per mile.

Nashua and Lowell, 15 miles—freight generally $1 per ton; horses, $1: two horse coaches, $1; passenger fare 40 cts. or 2 66 cts. per mile.

Concord road, Nashua to Concord, 34 miles—freight is divided into 1st and 2d class, and is charged about 4 cts. and 3¼ cts. per ton per mile, or $3 and 2 50 through to Boston, 75 miles, and lumbet 75 cts. per 1000, and hard wood 2 75 per cord pine wood $2 25, through; horses, one, $3 25: two or more at $2 50 each: two horse carriage, $2 50; fare 80 cts., or 2·35 per mile.

Worcester railroad, 44 miles—coal, iron, lumber, etc., 4 cents; heavy merchandise, such as sugar, salt, butter, etc., about 6 cts.; groceries and drygoods, 6 to 8 cts.; light and bulky merchandise, 6 to 10 cts. per ton per mile; passenger fare, $1 25, or 2·8 cts. per mile.

Boston and Providence railroad, 42 miles—coal, iron, grain, and merchandise generally, from 5 to 7½ cts. per ton per mile; horses, $4: carriages, 3 to $4; passenger fare, $1 25, or 2·97 cts. per mile.

Stonington road, from Providence to Stonington, 47¼ miles—corn, grain, iron, coal, sugar, salt, and dry lumber $2; butter, dry doods, and bulky articles $2 80 per ton; one horse, $3: stage coach, or large carriage, 6½ cts. per mile; fare, $1 50, or 3·1 cts. per mile.

Boston and New York, via Providence and Stonington, 216 miles—freight measurement goods, 7 cts. per cubic foot; by weight, 30 cts. per 100 pounds; passenger fare, $5, or 2·3 per mile.

Boston to New York, via Fall River, 223 miles—freight 7 cents per cubic foot, and 30 cts. per 100 lbs.; passenger fare 5, or 2 24 cts. per mile.

Fall River railroad, 53 miles—coal, iron and grain, $2, and sugar, salt, groceries, butter and drygoods $2 50 per ton; light and bulky articles, charged by measurement, 140 cubic feet to the ton; passenger fare $1 35, or 2·54 per mile.

Boston and New York, (via Norwich)—freight as on the other through lines; fare through $5—and a passenger wishes to stop over a day on the way, he can do so by applying to the agent in N. York or Boston.

Norwich and Worcester road, 60 miles—we have not got the rates of freight; fare $1 50, or 2·5 cts. per mile.

Old Colony road, Boston to Plymouth, 37 miles—freight generally 4½ cts. per ton per mile; ligh and bulky articles, 140 ft. to the ton; passenger fare $1, or 2·66 cts per mile.

Connecticut River road, from Springfield to Greenfield, 36 miles—freight, iron, coal, manure, lumber, grain, sugar, butter, and salt, $2; dry goods and groceries $2 40 per ton through; fare $1 10 or 3 cts. per mile.

Providence and Worcester road 43½ miles—freight, groceries, dry goods, grain sugar, salt, butter, iron, coal, manure, and lumber, $3 for 2000 lbs.; bulky articles 15 cts. per 100 lbs. through; fares, 1st class $1 25, 2d class 85 cts., or 2·84 and 1·9 cts. per mile.

Boston and Fitchburgh, Boston to Fitchburgh, 50 miles—freight, all heavy articles, as butter, salt. sugar, groceries, and drygoods, through per ton, $2, or 4 cts. per ton per mile; light and bulky, 4 cts. per ton of 150 cubic feet per mile; horses, at 1 ton each—or 4 cts per mile or $2 each; carriages, 1 horse, $1: 2 horse, $2, each through; fare, through, $1 25, or 2·5 cts. per mile.

Western railroad, Worcester to Albany, 156 miles—freight, sugar, salt, butter, grain, iron, coal, lumber and groceries, $4 per ton of 2000 lbs., or 2·56 per ton per mile; drygoods, and bulky articles, $7 per ton of 2000 lbs. through, or 4·44 per ton per mile; one horse $10 50: two horses, $12 25; three horses, $14, at the risk of the owners; one horse carriage through $12,25: two horse carriage 15 75; stage coach, or omnibus 28 00, at the risk of the company; fare through, $4 25, or 2·72 cts. per mile. The fare through from Boston to Albany, is, we believe, $5, or 2·5 cts. per mile.

New Haven and Springfield railroad, 62 miles—coal, iron, manure, lumber, sugar, salt, etc., $2 60, or 4·2 cts. per ton per mile; groceries and drygoods, 3 50; grain, 5 20 per ton; passenger fare, 1 87, or 3 cts. per mile.

Bridgeport, 98 miles—coal, iron and marble, 3 per ton; sugar, salt, butter, 3 20; drygoods, 4; grain, 7 cts. per bush., through; horses and cattle, 3 50 each: two horse carriage, 5 25; passenger fare, $2, or 2·04 cts. per mile.

New York and Harlem railroad, 53 miles—coal, $2 per ton; iron, sugar, etc., 18 cts. per 100 pounds; heavy merchandise, 3 50, and light $4 per ton; lumber, 3 50 per 1000 ft.; horses and cattle, 3 50 each; passenger fare, $1, or 1·88 cts. per mile.

New York and Erie railroad, New York to Port Jervis, 100 miles—25 miles by steamboat—freight to Otisville, 87 miles, coal $2 20, iron 42; heavy articles, such as grain, sugar, salt, butter, etc. etc. 3 50 to $4; groceries, $4 50; one horse carriage $3 *two* horse 4 50. We are not able now to give the rates charged upon *milk, fruits, vegetables*, etc. on this line, but they are exceedingly low, and *morning* and *evening* trains are run *expressly* for such freight. We have not obtained the rates for the current year, since the road was opened to Port Jervis.

Patterson road, 16¼ miles—freights average about $2 50 per ton, delivered by the company; fare 50 cts., or 3 cts. per mile.

Morris and Essex road, 32½ miles—freight, coal, iron, and manure, $2 25 per ton; corn and grain 8½ cts. per bushel; lumber 3 per 1000 ft.; flour 25 cents per barrel; fare $1, or 3 cts. per mile.

New York to Philadelphia, *via New Brunswick and Trenton*, 90 miles.—This lines is owned by *three* distinct companies—and managed by *two*. The *through* fare is $4, or 4·44 cents per mile—while the *way* fare, or *from place to place*, is only 2 25—or 2·5 cents per mile, as follows: from New York to New Brunswick, 31 miles, 75 cts—from thence to S. Trenton, 29 miles, 75 cts., and from thence to Philadelphia, 30 miles, 75 cts! This is what the people of those places pay, and what others pay, if they *wait over, at each place, for the next train*—but if they pay *through*, from either end, it is $4. Yet, *many have*, and *more will*, probably, hereafter pay *three times*, or from place to place and go directly through, by the same train, for 2 25 to 2 75—while the stranger, or *uninitiated*, pay four dollars in the same car—or they *may* do so if they will. This line carries *little* through freight.

New York to Philadelphia, *via Camden and Amboy*, 88 miles.—This line is owned by one company, and is partly by railroad and partly by steamboats—the fare through is $3, or 3·4 cents per mile.—Freight, *legal* rates, fixed in their charter, 8 *cents per ton per mile*—or 32 cents per 100 lbs.—or 7 20 *per ton*, through. The company have, however, exacted various prices, from 30 cents to 1 00 per 100 lbs.—or from 7 00 to 22 40 per ton.

☞The company, we understand, undertake to *evade* the restriction, by considering it as only applicable to the *railroad portion* of the line, 61 miles—leaving them at liberty to charge just what they please, on their *steamboats* for the 27 miles from Amboy to New York. Their legal rates are nearly double those charged by most other railroadi in the country; and their charges from Amboy to New York, *by water*, are *double to five times their* railroad charges—or from *five* to *fifteen* times as much as on any other line of boats leaving the New York waters.

Reading railroad, 92 miles—coal, $1 50 for 2000 lbs; bituminous coal, iron ore, 2 10; pig iron and timber, 2 50; bar iron, flour, grain, fish and tobacco, 2 90; groceries and hardware, 4 25; drygoods and furniture, 5 25; one horse 6, and carriage per agreement; passenger fare, $3 50, or 3·8 cts. per mile.

Philadelphia and Columbia road, 82 miles—the freighting is done by private individuals at about 25 cts. per 100 lbs.; Passenger fare $2 88, or 3·5 cts. per mile.

Lancaster and Harrisburg, 36 miles—passenger fares $1 50, or 4·1 cts. per mile.

Harrisburg and Chambersburg, 56 miles—coal, iron, manure, 1 50; lumber, corn, grain, 1 78; sugar, salt, butter, groceries, drygoods, 2 per ton through; passenger fare, $2 12, or 3·78 cts. per mile.

Philadelphia, Wilmington, and Baltimore, 97 miles—freight 50 cts. per 100 lbs. through; passengers $3, or 3·1 cts. per mile. This road carries very little through freight.

Baltimore and Susquehannah, 71 miles—coal, 1 37½; iron, 1 84; corn and grain, 2 20; salt and butter, 2; groceries, sugar and drygoods, $2 50 per ton through; horses $3 75, and four wheeled carriage 3 37 each; passenger fare, $2 12, or 3 cents per mile.

Baltimore and Ohio, 179 miles—coal, 2 75; iron, in open cars, $3 50; coffee, 25, drygoods 35 cts. per 100 lbs. through; passenger fare, $7, or 3·91 c. per mile.

Baltimore and Washington, 40 miles—coal, iron and grain, 4 cts. per ton per mile; sugar, butter, salt, drygoods, light and bulky merchandise, 2 30 per ton through; horse, or *horse and wagon*, 5 75; passenger fare, $1 80, or 4·5 cts. per mile.

Winchester and Potomac, 32 miles—coal $1, iron 1 75 per ton; flour 18 cts. per bbl.; grain 10½ per 100; sugar, dry goods, and light bulky articles 14 cts. per 100 lbs.; horses 2 50 each, four wheel carriages 4 50 to $7 50; fare $2, or 6·25 cts. per mile.

Louisa road, 50 miles—iron $1 66; lumber $3 per 1000; corn and grain 14 cts. per 100; sugar, salt, butter 20 cts., and dry goods 22 cts. per 100 lbs.; horses 4 66; four wheel carriages 4 50 each; light articles $4 per ton; fare $2 50, or 5 cts. per mile.

Richmond, Va., to Washington City, 133 miles—iron, 2 cents per ton per mile; sugar, salt, butter, groceries and drygoods, ½ ct. per cwt. per mile; bulky articles, 8 cts. per cubic foot to Fredericksburg; horses 6 cts. per mile; four wheel carriages 11 cents per mile; passenger fare, $5 50, or 4·13 per mile.

Richmond and Petersburg, 22½ miles—sugar, salt, butter, ½ ct. per 100 lbs. per mile; groceries and drygoods, ¾ ct. per 100 lbs. per mile; passenger fare, $1, or 4·34 cts. per mile.

Petersburgh to Welden, 63 miles—lumber, $5 per 1000 feet; corn and grain, 6½ to 8½ cts. per bush; salt, sugar and butter, 25 cts. per 100 lbs.; horses and carriages $3 each through; passenger fare, $3, or 4·76 cts. per mile; second class, 1 50, or 2·38 cts. per mile.

Gaston and Raleigh, 87 miles—lumber, $7 per M.; corn and grain, 10 cts. per bushel; sugar, salt and butter, 35 cts.; groceries, 55 cts. per 100 lbs.; light and bulky articles, 10 cts. per cubic foot; horses 4 20; carriages 7 to 8 50: passenger fare, $4, or 4·6 cts per mile.

Wilmington and Welden, 161½ miles—corn and grain, 10 cts. per bush. for 80 miles, 12 cts. thro': sugar, salt and butter, 38 cts., and drygoods, 80c. per 100 lbs., through; horses 8: carriages $10 through; passenger fares, $6 50, or 4 cents per mile.

South Carolina, 136 miles—iron, 25 c. per 100 lbs.; corn and grain, 7 cts. per bushel; sugar, salt, butter, 25 cts. per 100 lbs.; light bulky merchandise, 8 cents per cubic foot, through; horses each 8: 4 wheel carriages 10 through; passenger fare, 1st class, $6 75, or 4·96 cts. per mile.

Columbia, 68 miles—coal, iron and manure, 25 cts. per 100 lbs.; corn and grain, 7 cts. per bush.; sugar, salt and butter, 25 cts.; drygoods, 45 cts. per 100 lbs.; light bulky merchandise, 8 cts. per c. ft. through; horses 8 each: four wheel carriages 10; two wheel carriages 6, through; passenger fare, $3 38, or 4·97 cents per mile.

Georgia, 171 miles—iron, 15 cts. per 100; corn and grain, 8 cts. per bushel; sugar, salt and butter, 30 cts., drygoods 60 cts. per 100; light bulky articles 10 cts. per cubic foot through; horses 8; 4 wheel carriages 10: passenger fare, $7, or 4·09 cts. per mile.

Western and Atlantic, 100 miles—iron, 15 cts., sugar, salt and butter, 25 cts.; drygoods, 40 cts. per 100 lbs.; grain, 8 cts. per bush.; bulky merchandise, 8 cts. per cub. foot through; horses 5: two wheel carriages 3; 4 wheel 6; passenger fare $5, or 5 cts. per mile.

Central, 191 miles—iron, 30 cents; salt, sugar and butter, 40 cts. per 100 lbs.; corn, 12 cts. per bushel: light bulky articles, 13 c. per c. ft. through; one horse 10; four, or more, at 5 each; 4 wheel carriage 10; passenger fare, $7, or 3·65 cts. per mile.

Macon and Western, 101 miles—iron, sugar, salt and butter, 25 cts., drygoods, 44 cts. per 100 lbs.; grain, 8 cts. per bushel; light bulky merchandise, 9 cts. per cub. ft. through; one horse 8; four at 4 each; four wheel carriage $8; passenger fare, $4, or 3·96 cts per mile.

Montgomery and West Point, 67 miles—barrels whiskey, etc, 60 cts.; dry barrels, 55 cts.; bulky merchandise 8 cts per cubic foot; cotton 95 cents per bale of 500 lbs; passenger fare, $3, or 4·47 cts. per mile.

Vicksburg and Jackson, 46 miles—sugar, coal, iron and manure, 40 cts. per 100 lbs.; salt, 60 cts. per sack; corn and grain, 10 cents per bushel; drygoods, 8 cts. per cubic foot; cotton, 87½ cts. per bale of 400 lbs.; horses and carriages 12 cts. per mile each; passenger fare, $3, or 6·38 cents per mile.

West Felicianna road, 24 miles—freight, merchandise, provisions, etc., 50 cts. per 100 lbs. through; passenger fare 75 cts., or 3·1 cts. per mile.

Lexington and Ohio, 28 miles—coal, corn and grain, 5 cts. per bushel; iron, sugar, salt, butter, groceries and drygoods, light and bulky merchandise, hemp, bagging and rope, 12½ cts. per 100 pounds; horses $2 each; carriages 2 to $3 each; passenger fare, $1 25, or 4·46 cts. per mile.

Madison and Indianapolis railroad, 86 miles—coal, and wheat 9 cts.; corn 8 cts.; oats 7 cts.; flour 35 cts.; pork, lard and salt 50 cts. per bbl.; iron $5 per ton; groceries, drygoods, and light and bulky articles, 35 cts. per 100 lbs.; specie, $1 per 1000; *live hogs*, 50 cts. through; horses 1 50 each; or $1 with a passenger; passenger fare, $2 50, or 2·9 per mile.

Little Miami, 84 miles—coal, iron, sugar, salt, butter, groceries and drygoods, $3 20 per ton; corn and grain, 7 cts. per bushel: light and bulky articles, $4 per ton through; horses 4 cts. each per mile, carriages the same; passenger fare, $2, or 2·38 cts. per mile.

Mad River, 102 miles—coal, iron and manures, 5 per ton; corn, 11 cts., wheat, 12½ cts. per bushel; flour, 45 cts. per bbl.; sugar, salt and butter, 32 cts., and bulky articles, 42 cts. per 100 lbs.; carriages by weight, and horses by agreement; passenger fares, $3 50, or 3·18 cts per mile.

Mansfield and Sandusky, 56 miles—iron, coal and manure, $1 60 per ton; corn, 6 cts., wheat 7 cts. per bushel; sugar, salt and butter, 2 dolls., drygoods, 2 50, bulky and light articles, 3 dolls. per ton through; horses and carrriages each 4 cts. per mile; passenger fares, $1 50, or 2·67 cents per mile.

Michigan Central, 146 miles—iron, manure, coal, corn, grain, groceries, 39 cts. per 100; salt, butter, beef, pork, fish and sugar, $1, flour, 66 cts., whiskey, beer and cider, $1 10, per barrel; corn and grain, 39, wheat, 33 cts. per 100 through; carriages 45 cts. per 100 lbs.; horses 2 35; hogs and calves 1 64; sheep 1 10 each; passenger fares, $4 40, or 3 cts. per mile.

Southern Michigan, 70 miles—manure and iron, 24 cts., sugar and butter, 34 cts., per 100; corn and grain, 11 cts. per bushel; flour, 40 cts. per barrel; salt, 34 cts. per barrel through; passenger fares, $2, or 2·85 cts. per mile.

Albany and Schenectady, 17 miles—iron, coal and manure, $1 per ton; sugar, salt, groceries, butter, drygoods and bulky articles, 1 25 per ton; horses 2, carriages 1 to 2 each; passenger fare, 50 cts., or 2·94 cts per mile.

Troy and Schenectady, 20½ miles—rates same as on Albany and Schenectady; passenger fare, 50 cts., or 2·43 cts. per mile.

Utica and Schenectady, 78 miles—*prohibited* from carrying freight, except when the canal is closed, and then canal tolls are added to the ordinary freight charges; passenger fare, $3, or 3·84 cts. per mile.

This line, in connection with the other lines from Albany to Buffalo, run a train at 1½ cents a mile for emigrants.

Utica and Syracuse, 53 miles—same as Utica and Schenectady road; passenger fare, $2, or 3·77 cts. per mile.

Syracuse and Auburn, 26 miles—coal, iron and manure, 8 cts., sugar, salt, groceries, butter and drygoods, 10 cts., and bulky merchandise, 20 cts. per 100 lbs; horses, 1; carriages 1 to 1 50 each; passenger fare, $1, or 3·84 cts. per mile.

Auburn and Rochester, 77 miles—corn and grain, 27 cts., sugar, salt, butter, groceries and drygoods, 20 cts., light and bulky articles, 30 cts. per 100 lbs.; horses 3; carriages 5 to 7, according to size; passenger fare, $3, or 3·89 cts. per mile.

Rochester and Attica, 44 miles—coal, iron and manure, ½ ct. per ton. grain, 1·5 ct. per bushel; butter, salt and sugar, 2·5 ct. per 100; groceries and drygoods, 4½ mills per 100; bulky and light articles, 5 mills—*all per mile;* horses and carriages 6½ cents per mile each; passenger fare, $1 56, or 3·54 cts. per mile.

Attica and Buffalo, 31½ miles—corn and grain, 3 cts. per bushel; butter and sugar, 12 cts. per 100 through; passenger fare, 94 cts., or 2·98 cts. per mile.

Buffalo and Niagara Falls, 22 miles—freight, 10 to 12 cts. per 100 lbs.; passenger fare, 75 cts., or 3·4 cts. per mile.

Lockport and Niagara Falls, 24 miles—passenger fare, 75 cts., or 3·12 cts. per mile.

TO CONTRACTORS.

PROPOSALS will be received at the Office of the James River and Kanawha Company, in Richmond, for the connection between the Basin at Richmond and the Richmond Dock. This work will consist of three locks of 18 feet lift, and one of 15 feet lift; intermediate canals for an aggregate distance of about half a mile, with such culverts, walls, wastes, street bridges, etc., as shall be necessary; and a stone dam across James River on the Falls at Richmond.

This work will be paid for in bonds of the company (to be issued under authority of an act of the legislature) running 25 years, bearing six per cent. interest, payable semi-annually, and secured by the net revenue of the Richmond Dock.

Besides the usual reservation of 20 per cent. on the monthly estimates, the contractor or contractors will be required to give ample security, satisfactory to the Board of Directors, for the completion of the work at the times and in the manner specified in the contracts.

Plans of the above works will be exhibited, and specifications thereof delivered to contractors, at the Company's office in Richmond.

WALTER GWINN, Chief Eng.
of the J. R. & K. Co.

Richmond, July 11, 1848. 3t29

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
26 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Plaining*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

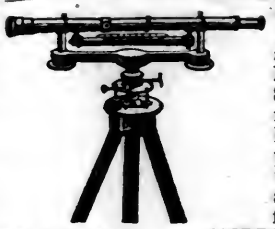
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

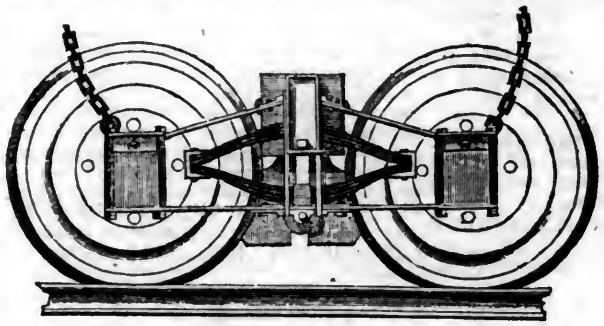
CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

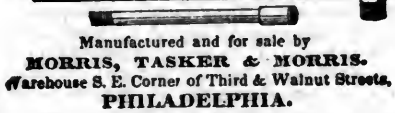
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TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
:v25 Philadelphia, Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

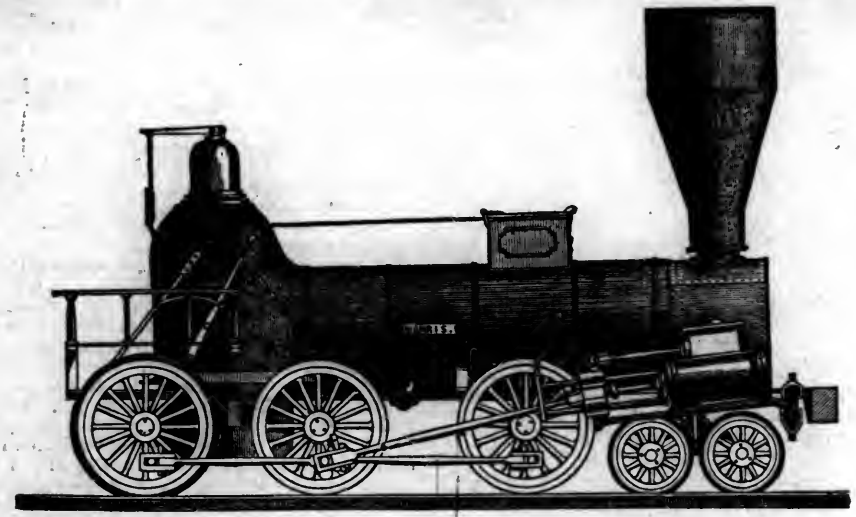
Furnished and fitted at short notice.

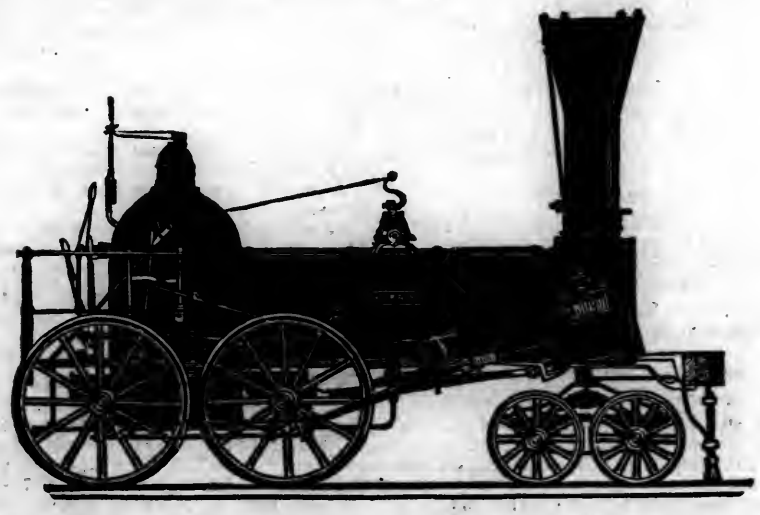
Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger



trains will leave daily, Sun-



days excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Bratlleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.




SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auborn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.




Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

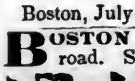
The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAIL-

road. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:




Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAIL-Road. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Ja., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAIL-ROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WEST-ern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*f*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ¼ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 32] SATURDAY, AUGUST 5, 1848 [WHOLE No. 643, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, August 5, 1848.

Reading Car Axle Manufactory.

The attention of Railroad Companies, and Car Builders, is called to the following Advertisement of Messrs. Andrew Taylor & Co.—of Reading, Pa. The reputation of the work of this establishment will, we understand, bear favorable comparison with any other in the country.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.

August 5, 1848—3m*

Ohio Railroads.

Two great chains of railroad are contemplated through Ohio, towards which decided measures have been taken. The first and most forward in its prospects is that leading from Cincinnati, through Columbus, and thence eastward till it touches the Ohio river, at some point where it can connect with a railroad to the seaboard. This road connects with the Cincinnati and Sandusky road, which is already in operation as far as Xenia or Springfield, and passes through Columbus and Newark to the mouth of Licking river. From this point, two routes present themselves, one to Wheeling through Zanesville, and the other in a northeastern direction till it strikes the river at Wellsville. The road for part of the distance, is in the hands of organised companies, who will carry on the work by local means, until they come to the point of divergence.

Postoffice Department and the Railroads.

We are indebted to some kind friend, for a pamphlet copy of the Reply of the Camden and Amboy railroad company to the Postmaster General in 1847.

There was a disagreement between the department and the company in relation to hours of departure—which induced the postmaster general to address a letter to the chairman of the committee on postoffices and post roads. To this letter the company made, sometime in the year 1847, a full and able reply.

The ground assumed, by the postmaster general, in this, as in many other cases—especially in the controversy with the Richmond, Fredericksburg and Potomac company—could not be conceded by the company. We hope never to see the railroads in this country under the control of the postmaster general. He now has quite too much power. The transportation of the mail must always be by contract, unless the companies should actually do, what the department has endeavored to do—*oppress* the opposite party, which was not the case in this instance, if we may judge from this reply—which says, "The space occupied in the crates and the cars of the companies by the mails, and the mail agents, would readily accommodate forty passengers, which, at $3 each, would produce $120 per trip, whilst the pay for the mails is only about $12. Again: the same accommodation would carry six tons of merchandise, which, at $8 per ton, would yield $48; or, if the cheapest freight were carried, say flour and iron, at the usual price of $2 50 per ton, would yield $15; so that it will appear that the United States have their mails carried in the fastest lines, at a cheaper rate than is paid for iron and flour in regular transportation lines, which occupy, in the passage from New York to Philadelphia, sixteen hours."

We agree fully with the company, that the department had no just grounds for complaint, under the agreement that then governed the service—a copy of which is set forth in full.

The success of the present mail system of this country depends upon the railroads—and the department should allow them—or if he has not power, recommend to congress to give power to allow—a liberal compensation for *rapid* and *punctual service*—instead of paying more money to carry the mail by a circuitous route, than by the shortest, quickest and best route, as he is now doing in Virginia—as will be seen by the report of Mr. Pearce, in the senate, on the 8th of June last, which we shall publish in our next number. We shall, at all times, give our *hearty support* to the railroad companies, when they come in collision with the postoffice department, or the *government*, if we feel that the more powerful attempts to *exact* from the weaker party, more than they are justly entitled to, as we think is the case with the present postmaster general—as we shall oppose their management when we think it oppressive to the business and travelling community. Railroad companies have *rights* to be protected, as well as *duties* to perform; and we labor to protect the former, as we shall to hold them to the performance of the latter, and therefore this company must look to themselves, and do by the people as they would have the postmaster do by them.

Railway Traffic.

"From our official returns," says the Chronicle, "it appears that the amount of traffic for the last week, on 3,892 miles of railway, was £206,803, thus accounted for: £110,790 for the conveyance of passengers only, £47,296 for the carriage of goods, and a remainder of £48,717 for passengers and goods together, not respectively apportioned; being an increase of £22,124 over the corresponding week of last year, when the mileage was 3,051. The average earnings per mile were £53, while in 1847 they were £60."

Iron Trade.

Glasgow, June 30th.—The market for pig iron has remained steady; there appears a fair demand still for export, and the quotation is 43s. 6d. per ton cash.

Birmingham, July 1st.—The correspondent of the Morning Herald gives a lamentable account of the present hanlting trade. "The depression in the S. Staffordshire district, and, I fear, throughout the whole of our mining counties, has ended in a very serious reduction in the price of iron, to be followed by another fall in the wages of all those engaged in the manufacture of it. The demand during the past few months has been comparatively nominal, and so entirely below the powers of production, that it has been found impossible to maintain the prices and wages of last quarter, and a reduction of 30s. per ton upon the quotations of March last has been decided upon. This resolve was come to at a private preliminary meeting of ironmasters held at Stewpony. The state of the continent, and its effect upon our best markets, was felt to be serious; and in the absence of any reasonable hopes of a favorable turn in foreign commercial matters, it was deemed advisable to submit to such a reduction as

might lead to an increase in our home demand, prevent the furnaces from being blown out, and save a vast number of workmen and their families from pauperism and commotion. Notice of a reduction of wages will therefore be given immdiately to the mill men, furnace men, miners, forge men and colliers; but how it will be received by them, coming so quickly after their recent long strike and eventual submission to a considerable reduction, remains to be seen."

Canal around the Falls of St. Mary.

The Buffalo Commercial Advertiser says "that another effort is to be made for the construction of this great work, the connecting link in the navigation of the great chain of lakes. Mr. Felch, senator from Michigan, has submitted a report from the committee on public lands, to which had been previausly referred a petition of O. B. Dibble, George C. Bates, and other citizens of Detroit, asking for the right of way, and the grant of land to aid in the construction of a ship canal around the falls, and the joint resolutions of the legislature of Michigan in relation to the same. The report recommends the cession of the right of way asked for, and the grant of 500,000 acres of land to aid in the construction of the canal. What action congress will finally take upon this subject remains to be seen."

This subject is of national importance. A great trade is destined to come from lake Superior, and the work should be commenced and completed with the least possible delay.

Railroad Connections.

The Pittsburg Gazette of the 10th, says the Zanesville Couries of the 14th ult., urges upon the friends of the railway routes in Ohio, the propriety of making their eastern termini at that point. Especially is our cotemporary of opinion that the Central Ohio railroad company would obtain, in that direction, an easier, cheaper, shorter and speedier way of aceess to the great markets of the east. And in this view the Gazette relies upon the early completion of the Pennsylvania Central road, and of the route from that point westward, via Wellsville, etc., in the direction of Massillon. These views are entitled to much weight, and we hope their consideration will not be neglected by those to whom the railway interests of Central Ohio have been committed.

We have no doubt, not a particle, of the practicability of a route from Wellsville, via Steubenville, the Connotten creek, and the Tuscarawas, New Philadelphia and Coshocton, to Zanesville. At all events, the question, if there be one, will soon be solved. The last Steubenville Journal says:

"*Steubenville, Mount Vernon and Indiana Railroad.*—The examination and survey of the route for this railroad, commenced yesterday at this city—the point of departure, the African church—by an experienced engineer, and suitable assistants. From examinations heretofore made, no doubt is entertained but that the most favorable route for a railroad from the Ohio river to the centre of the State of Ohio, is that which commences at this city, by the valleys of Cross creek, Connotten, etc., to the level or table land near the Ohio canal, from which it is believed that no natural obstacle exists until the line of the Cincinnati and lake Erie railroad shall be reached. Beyond that line, it is not probable that we shall extend our views for the present. The city council of Steubenville has made a liberal appropriation, in aid of these surveys and examinations; which appropriation, to be efficient, must be increased by private subscriptions."

The results of this examination will setile, beyond cavil, the adaptation of the region referred to, for railway construction. If it shows that a road cannot be built, well and good—regrets will be useless. But if that reconnoissance establishes the fact that a good road can be built at a reasonable expense on the route we have designated, the time will then have come for the intelligent and public spirited citizens of our valley to decide, to see whether their true interests tend, and, this done, to pursue them with the energy which circumstances shall require. It is high time to have it understood that duplicity benefits nobody, and that, whoever may seek to practice it, no reflecting community will submit to be its subjects. And, on the other hand, the time has not gone by, in which good faith will be reciprocated, if deserved.

Since the above was written, says the Courier, the Wheeling Times of the 12th has been received.—The Times strenuously denies that the examination of the routes eastward from that city has resulted in any respect unfavorably.

Petersburg and Roanake Railroad Co.

This company, says the Baltimore American, has just declared its semi-annual dividend of 3½ per ct. The last annual report of this company, according to a synopsis of it published in the Philadelphia American, shows that the road is doing a prosperous business. The company, with a capital originally insufficient to pay for the construction of their road, have rebuilt one-fourth of it with edge rails, and the balance with heavy plate iron, constructed an expensive bridge, and three miles of new road across the Roanoke river, besides refurnishing their road with engines and cars—all of which they paid for out of the profits of their business, while from the same source reducing their indebtedness to about $20,000.

During a large part of the time they were doing this, they were able to pay the stockholders moderate dividends, which, for the last year or two, they have increased to seven per cent.; and all this has been done with a very moderate business—indeed a very small business, if we compare it with the trade enjoyed by the railroads in this portion of the Union, and in New England—as witness the following statement:

Receipts from transportation for the 12 months ending Feb. 1, 1848		$182,686 80
Expenses of transportation	76,287 13	
New engines, new cars, new warehouses, interest, etc	41,621 45	
		117,918 58
Net income for payment of dividends, and reduction of debt		64,768 22

A very good exhibit of a healthy business, which we must presume is skilfully and prudently conducted.

Railroad Matters.

We learn from the Beaver Argus, says the Pittsburg Gazette of 10th ult., that on Monday last, the engineer selected by the directors of the Ohio and Pennsylvania railroad company. S. W. Roberts, Esq., arrived at that place, and entered upon the duties of his appointment. A commencement was made on Tuesday, upon the Brady's Run route—and all the others will be examined in order—the best of course will be selected for the interest of the stockholders and the public.

Mr. Roberts, having started his assistants upon the work, has returned to a prior engagement upon a railroad through the Schuylkill coal region, which he expects to complete in about a month. Then he will give all his attention to the western road.

Every effort is now making in Ohio to prosecute with energy the Cleveland, Columbus and Cincinnati railroad, which will be intersected by our Pennsylvania and Ohio road, somewhere in Wayne county—probably Wooster. From a statement in the Cleveland Democrat, we learn that to grade and bridge the roadway, and prepare it for the iron, from Cleveland to Columbus, inclusive of the labor of placing the iron rails, it is supposed will cost from 1,200,000 to $1,250,000. The amount of stock subscribed and authorised by cities and counties to be subscribed, with what has already been subscribed by individuals, and which is confidently expected to be obtained in Cleveland, Columbus, and the intermediate country, is, altogether, about $800,000. The construction of the entire road, exclusive of furnishing the iron, can be advantageously let to responsible contractors, who will take in part payment $300,000 of the capital stock, and will also furnish an entire outfit of engines and cars, and take in payment the bonds of the company, convertible into stock at their option. All that is now wanting to carry out the project, is a subscription of $150,000 of stock by Cleveland. This done, the road will go on at once, as the directors have no doubt of being able to raise the money from the subscription of eastern capitalists, or otherwise, to purchase the iron, and to complete in a short time, say in two years, the entire road. We hope Cleveland will not falter now.

Eastern Railroad.

The annual meeting of the Eastern railroad company, says the Salem Register, was held at the Town Hall in Gloucester, on Monday. A free passage and a free dinner tempted a multitude to attend, and there were over five hundred stockholders present. The annual report was read by the president, and presented a very satisfactory result.

The receipts for the year ending June 30th, 1848, were as follows:

Receipts from 899,229 passengers		$360,888 19
" 45,710 tons merchandise		55,258 09
" Mails		8,324 00
" Incidentals		2,839 61
" Rents		2.534 36
Total		452,444 23
Expenses		164,805 42
Balance		287,628 81
Number of miles run by engines		26,500
Expenses per mile		62 1-5 cents.
The total surplus and sinking fund, June 30th, was		1228,737 03

The accounts show a floating debt of $198,482, against which there are property and balances of account not required for the use of the road, of 488,740, a portion of which will be immediately available; another portion, consisting of real estate, could be sold for a considerable sum more than the valuation, but the almost certain advance of prices, that will be obtained from holding it, make it desirable to retain it.

On the recommendation of the president's report, a committee was chosen to examine the accounts and the condition of the road and its branches, to report at the next annual meeting. The company then proceeded to the choice of directors, when the old board was re-elected, as follows:

David A. Neal, Salem; Isaiah Breed, Lynn; D. Adams, Newbury; John Hooper, Marblehead: I. Goodwin, Portsmouth; P. T. Reed, Boston; John E. Thayer, Boston.

After the regular business was completed, the company adjourned to the ropewalk, which was tastefully adorned with evergreens and flowers. The table was liberally spread with all the materi

als for a good fish dinner, with other provisions for those who were not piscatorially inclined. After the dinner, the company improved the opportunity of seeing something of the pleasant town of Gloucester, and some of its numerous natural beauties, before returning to their homes.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 25th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	9,851 17.	108,516 12
By Room Run	3,625 04.	56,869 18
By Hazleton	3,341 00.	43,993 00
By Beaver Meadow	3,058 14.	36,555 14
By Spring Mountain	1,702 14.	31,529 07
By Buck Mountain	2,791 06.	34,717 15
By Cranberry Mines	1,313 00.	5,268 00
White Haven	1,270 13.	3,085 14
Total	26,981 08.	320,836 00

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 27th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	12,544 04
" Pottsville	5,310 03
" Port Carbon	10,225 02
" Port Clinton	3,432 13
Total this week	31,512 02
Total this year	706,924 08

The amount of coal brought to market by the Schuylkill canal during the week ending the 27th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	8,260 19
" Schuylkill Haven	3,780 08
" Port Clinton	761 17
Total this week	12,803 04
Total this year	204,225 06

Recapitulation.—Total Shipments this Season.

By Lehigh companies	320,836 00
By Reading railroad	706,924 08
By Schuylkill canal	204,225 06
Total	1,231,985 14

Little Miami, Ohio, Railroad.

We have received, says the Cincinnati Atlas, per Mr Van Dusen, the receipts of the Little Miami road for the month of June:

For freight	8,244 99
" passengers	12,864 44
Total for June	21,108 73

The receipts for the same month of 1847 were,

For freight	12,171 08
" passengers	8,517 89
	20,688 77
Excess of 1847	419 76

The reader sees that in 1847, there was an excess of nearly $4,000 in freight; but that in 1848, there is an excess of $4,300 in passengers. The cause of this is the unprecedented quantity of produce sent to Europe in 1847, and the greater travelling now to the north by this route. Monday, the 23d ult, three hundred passengers went out on the railroad! In the remaining months of the year, we predict a great increase of the receipts over last year.

It is also said that the only remaining link in the chain of railroad which connects that city with Sandusky Bay on lake Erie, will be finished in about four weeks. Passengers will then leave Cincinnati in the morning, and reach Sandusky City on the lake, the same afternoon before sunset. From Sandusky, passengers are conveyed in steamboats without delay to Buffalo. Between the cities of Cincinnati and New York the travel by this route will occupy three days and a half.

Pennsylvania Railroad.

Among the important works in progress for the transportation of passengers and merchandise upon leading routes, the completion of which are regarded as calculated to exercise an influence on the trade of the country, the N. Y. Herald mentions, and very truly, too, the following:

"The Pennsylvania railroad, from Philadelphia to Pittsburg, will probable be completed about 1852, when a perfect line of railroad may be looked for from Buffalo to Pittsburg, a distance of about 900 miles. From the present prospects of that road, it is anticipated that their cars will run from Harrisburg to Lewistown before the close of the winter of 1848 and 1849, and with the means now at their command to connect with the Portage at Hollidaysburg, which, with the completion of the western fifteen miles, will give a continuous railroad communication between Philadelphia and Pittsburg, with the exception of fifty-five miles to be travelled by stages. The citizens of Ohio have been making exertions to form a continuous railroad from the Atlantic, through the fertile valleys of that State, to the distant west.—One item of trade which is considered tractable on this route, is the passage of 50,000 cattle, a number that annually passes through Pennsylvania from Ohio. On this road, the west side of the mountain will be passed at Sugar Run Gap, by a tunnel of 760 yards long, and 160 feet below its apex."

New York and New Haven Railroad and Steamboats.

The following remarks on this subject are from the Hartford Times.

There are many who imagine that this road cannot possibly succeed against the steamboats on the Sound—as it is believed in relation to the Hudson River road—yet we have no fears on the subject.—The investment in the railroad will be *better* during the ensuing *ten* years than in the steamboats.

The railroad will *create* its own business, on its entire line; the steamboats only touch at the two *extreme points*. We have no fear for the railroad.

"The Hartford Times states that the approaching completion of the New York and New Haven railroad is bringing home the interesting question as to how far that road can compete for travel with a steamboat service of such a character as that which now supplies a connection between the two places. The Connecticut has accomplished the passage in three hours and forty five minutes, which gives twenty to twenty one miles an hour as the rate of speed. The Commodore, another magnificent and agile steamer, plying the same waters, is considered as being nearly, or quite as rapid as the Connecticut. The peculiar friends of the railroad, and perhaps others, are fancying that on the completion of the road these steamers will have to be withdrawn. On the other hand, a great number are sanguine in the belief that they will contintinue to be retained and used in their present service. Their speed between the two cities is, as the Times truly observes, greater than that accomplished on any line of railroad in the United States out of New England, and equal to that on the average of railroads in New England.

"The average time made on the line between Boston and Albany is about 20 miles an hour. Between Albany and Buffalo it is less than 15 miles an hour. The route between New Haven and New York will have a great deal of 40 feet grade, many draw bridges, and only a single track. Passengers will necessarily be subject to the very great annoyance of a change to horse power at some distance from the terminus in N. York. In view of all these occasions of detention, it is very reasonably doubted whether any material gain can be made on a speed of three hours and forty five minutes between the two cities. The superior convenience and comfort of a water passage to New York, after a ride of 160 miles from Boston, especially during the four months when the amount of travel is greatest, will, it is thought, constitute an inducement sufficient to draw the majority on board the steamers. The hazards of the trip by water will also, it is thought, be as few and as small as those by railroad. As the sound is landlocked between New York and New Haven, it affords a navigation as safe, and freer from the dangers of navigation than most rivers. And, last, but certainly not least, the steamboats, notwithstanding their splendid accommodations and sumptuous tables, can live upon rates of fare which will never support a railroad. At any rate such is the judgment of one, and that a large, party on the subject, and it seems *prima facie* correct."

Reduction of Cost of Working Engines.

We find the following article on this subject in the Railway Chronicle of July 8th.

Several of the officials of our great metropolitan lines have been trying some plan for the reduction of the smallest working expenses in the common business of the company. Among these, Mr. Samuel, of the Eastern Counties, has been especially active.—The "Liliputian" engine was brought forward by him, and since its career this little engine has run about 10,000 miles, with scarcely any repair. The result of its working induced Mr. Samuel to direct his attention to the employment of light locomotives for branch traffic; and the conclusions at which he arrived will be found in the following extracts from a paper read by him at the Birmingham Society of Mechanical Engineers:

The result of observations which I have for a considerable time been making on the branch passenger traffic of railways, has been to convince me that on the whole it is not remunerative, and in some cases is even worked at a loss. I have therefore been led to consider whether the expenses might not be reduced by the introduction of a system of steam carriages, made suitable to the amount of traffic to be conveyed. It is evident that the more we can reduce the dead weight of the trains and engines in proportion to the number of the passengers, the less will be the expense of repairs both of the carrying stock and engines, and of the way and works of the line. The average weight of a train on the branch lines is 56 tons, the number of passengers conveyed by each train not exceeding 35 to 40 on many of the branch rail-

ways in England. Supposing each passenger with luggage to weigh one and a half hundred weight, the total weight of the passengers conveyed is about three tons, or, in other words, for every ton of paying load we are now carrying by the present system of locomotion, we have 18 to 20 tons of dead weight. It is therefore in a commercial point of view, of the greatest importance, not only to railway companies, but to the public generally, that some less expensive, and at the same time equally safe, means of transport be adopted. It is therefore proposed to substitute steam carriages for locomotives on branch railways.

The following are a few of the principal dimensions of the steam carriage now in course of construction: diameter of cylinders, 7 inches; length of stroke, 12 inches; diameter of driving wheels, 5 feet; distance between centres, 20 feet; width of framing, 8 feet 6 inches. The boiler is of the ordinary locomotive construction, 5 feet long by 2 feet 6 inches diameter. The fire box is 2 feet 10 1-2 inches by 2 feet 6 inches. There are to be 115 tubes, of 1 1-2 inch diameter, and 5 feet 3 inches in length, giving 210 feet of heating surface in the tubes. The area of the fire box is 25 square feet, giving a total of 235 feet of heating surface in the boiler. The consumption of coke may be estimated at 7 pounds per mile, at a velocity of 40 miles per hour. The total weight of the steam carriage, with its coke and water will not exceed 10 tons; and it will be capable of conveying about forty two passengers at a speed of 40 miles per hour. The water is to be carried below the floor of the carriage, in wrought iron tubes, of 12 inches diameter and 12 feet long. One great object attained in this machine is the reduction of the centre of gravity, and the consequent absence of lateral oscillation.

Address to the People of New Jersey,
By the Directors of the Camden and Amboy Railroad Company.

The following address has been sent to us by an unknown hand, and we lay it before our readers at the earliest moment that other previous arrangements will permit.

We ask for it the candid and careful perusal of all who have read our previous comments upon the course of the company, or who take any interest in the matter. Our columns are open alike to the company and to others.

The history of the past, fruitful in the lessons of experience, has often taught that achievements in the walks of civil life, resulting in public benefits, however hazardous in their inception, and onerous in their accomplishment, are soon forgotten. The thousands who have sacrificed fortunes in schemes of public improvement, if remembered at all, have been remembered with feelings of pity, for what the world has been pleased to consider their follies or their faults—while those who have been successful, whose toil and hazards have resulted not only in public benefit, but in individual emolument, have fared but little better—exposing themselves to the envy of the few, instead of the pity of the many.

A great public work is planned, progressed in, and completed. It brings two great commercial emporiums, separated by three hundred miles of navigation, within the distance of ninety miles of each other. Another is accomplished: it enables the traveller to pass between the two great cities in four and a half hours, instead of twelve, or eighteen, and with infinitely greater comfort. The *cost* of transportation and travel is reduced fifty per centum, taking all things into consideration, and the *comfort* and *safety* of the means provided, are worth fifty per centum more. At the moment of transition from one state of things to another, every body is satisfied and delighted.

In a little while, trade and travel runs into the *new* lines, and the *old* are forgotten. No one thinks of what *was;* the thoughts of all are directed to what *is.*

It may be that this improvement—this change in the comforts, the facilities, the safety, the time of transportation and travel, accomplished by these new channels, cost something—that fortunes were staked in them—that public faith and credit were pledged to secure them. It may be that wise statesmen planned them for the benefit of the public, and that patriotic men stepped in and ventured their all upon the chances of success in executing them. Those who enjoy their advantages are sure of one thing—they had none of the risk of constructing these works—none of the toil; the works themselves, like those of nature, are there, now and forever—and it *costs nothing to find fault.*

There have always been abroad in the world, people who, without industry or enterprise themselves, are ingenious in contriving how to live upon the industry and enterprise of others. Having nothing of their own to appropriate, they are the busiest of all people in appropriating what belongs to their neighbors. With nothing themselves to secure, they are apt to esteem all laws which afford security to property as unequal and unjust. The press, too, which ought ever to guard with vigilance and fidelity, the rights of personal liberty and private property—rights, without which society could not exist, and which constitute the vital principle of individual and social progress, is often surrendered to those sinister influences, and lending itself to purposes of falsehood and detraction, forgets its mission, and obscures or banishes from the community, the light it is its proper office to disseminate.

For years the Delaware and Raritan canal and the Camden and Amboy railroad and transportation companies—corporations created by the legislature of the State of New Jersey—have existed, an illustration of the truth of these remarks. Originating in the conceptions of wise and patriotic men—designed to secure great national and public purposes for safety and protection in time of war, and convenience and utility in time of peace, advocated with inthusiasm by every body when yet in embryo, constructed at length, at immense cost of private wealth, and at the hazard of private fortunes—*the history of their struggles for existence has hardly been written before it is forgotten.* The wisdom of the policy in which they originated, always applauded until success became probable, comes to be doubted. The advantages resulting from them to the public, once so palpable, come to be questioned, and in places high and low, instead of the voice of cheering encouragement and approbation, efforts are made to hold them up to the world as odious monopolies, and the state which gave them birth, and cherished them as monuments worthy of the progressive spirit of the age, selfish, grasping and corrupt.

While these efforts were confined to men whose motives were easily read and understood—speculators, anxious to destroy, that they might divide the spoils—agitators, whose peace is only purchased by tribute, no word of reply has been deemed necessary.

But when, as has recently been the case, a public meeting has been held in a neighboring state, and honorable members of the dignified senate of the United States have presented petitions to that body, from citizens abroad, praying "for the establishment of a post route between Philadelphia and New York, so as to do away with the monopoly of the Camden and Amboy railroad:" in other words, when foreign influences are invoked to commence a crusade against the institutions of the state—destroy the prosperity of her citizens—and abolish her revenue, derived from the constitutional right of taxation, the time seems to have come, when the victims proposed to be first offered upon the alter, are furnished with a proper occasion to speak in their defence.

They might comprise their defence in terms of exceeding brevity; *they might lay their hands upon their charters and say, these are the statutes of a sovereign state—we are her citizens—she knows how to preserve her laws inviolate—she never falters in her duty to her sons.*

But the joint companies, entertaining a profound respect for public opinion, would rather appeal to the justice of the laws complained of, than refer to the power of New Jersey to maintain them.

The history of the charters furnishes the vindication. New Jersey had scarcely recovered from the sacrifices she made in the struggle by which American liberty was won, when her public men turned their attention to the project of constructing a national thoroughfare, by water, between the cities of N. York and Philadelphia, as a means of defence and a convenience for commerce. In 1804, and in 1824, successive acts were passed, incorporating companies to construct a canal from the Delaware to the Raritan, and in 1816, an act for a railroad. The state had no revenues or resources of her own. In the history of the past, her citizens had read a salutary caution against incurring a public debt, the payment of which was to depend upon contingencies or taxation. By these charters, the enterprise was thrown open to the world. As it was a national work, congress was solicited for aid; as it was a work demanded by the commercial interests of N. York and Philadelphia, these cities were invited to participate.

The state offered to exempt it from taxation until it should yield a revenue of fifteen per centum upon its cost. She offered it a protection of ten miles on each side, against any rival railroad or canal.

But all her offers and solicitations were rejected. When the hazard was to be met, the chances of loss as well as profit to be incurred, the money required—the nation was satisfied with our turnpikes, and the merchants with the coastwise transportation.

The war of 1812 furnished a lesson which was not forgotten in New Jersey, though it seems to have been elsewhere, though such a work would have saved millions to the country during the war, and, perhaps, have changed its phases in the north; yet, neither during its continuance, nor after its close, did any patriotic citizen present a petition to the senate for even a *post route across New Jersey;* and no patriotic senator was disturbed by the extortionate prices, or tardy time of wagoners, or stagemen, employed in plodding through the mud of New Jersey. In 1829 the governor of New Jersey, the lamented Williamson, at the close of his administration, urged the enterprise upon the legislature as a great national work, called for by patriotic considerations. He recommended that it should be expressly protected against competition. "And," said he, "as it is a work of great national importance, both in a commercial and military point of view, it may reasonably be expected that the state may obtain if desired, pecuniary aid from the general government; an expectation he lived to see disappointed.

But the question of its construction by the state had been warmly advocated in the legislature of 1828. It had been made a question at the polls at the succeeding election; and the legislature of 1829 considered themselves as instructed against undertaking it on public account.

The people were in favor of the project, but against the resulting debt; they had then, as they have now, a dislike to taxes, a hatred of debt, and a horror of repudiation in all its forms. Meantime, a number of the friends of internal improvements in New Jersey, disheartened at the prospects of the canal, applied for a charter to make a railroad from Camden to Amboy. The friends of the canal perceived at this crisis, if *the canal was lost, it was lost forever.* The competition of such a road would render its success impossible. The legislature resolved to charter companies to construct both. The railroad charter contained *no protection.* It was subjected *to an income tax* of ten cents a passenger, and fifteen cents a ton for merchandise; and it was provided that if the state should, at any time, authorise another railroad to be constructed, commencing and terminating within three miles of the commencement and termination of this road, this income tax was to cease, and both were to be taxed alike. *The tax was levied on the company, not on the passengers or merchandise,* and in the exercise of the lawful and legitimate right of the state to tax the property and business of its citizens, imposed by the state, and assented to by the company, not as the price of *protection* or *exclusive privilege*, but as the company's just share of the public burdens, to be paid out of the income of the works in the hands of the stockholders.

This was the character and origin of the transit duties now so loudly complained of. The state taxes her banks on the amount of their capital; her railroads on the amount of their business; her farmers by the value of their farms; and the one mode is as proper, as legitimate, as equitable, as the other.

The railroad stock was subscribed and the company organised. But not so with the canal stock. The objection of capitalists were that two millions of dollars, at least, would be required to complete it; that ten years would elapse before it would be finished and begin to yield a revenue; and that the railroad would prove a formidable competitor. The objections prevailed. Its friends were about to abandon it in dispair, when a citizen New Jersey, who had been absent from the state, comprehended its immense importance to the country, in a military as well as commercial point of view, came forward, subscribed a large part of the stock, embarked his whole fortune in the enterprise, and devoted his time, talents and energy to its successful prosecution. But his untiring efforts were unavailing to induce others to subscribe. Congress was in vain again solicited for aid. The moneyed men and merchants of New York and Philadelphia were solicited in vain. There was no very ardent desire for *two* routes then. Money was wanted; a risk was to be encountered. It was as clear as a sunbeam, that if the canal was to be made, New Jersey, unassisted, must provide the ways and means

It was proposed to extend railroad privileges to the canal company; but to that there was this objection:

The state had reserved the right to purchase both the works at the expiration of thirty years from their completion; and it was urged that it would be an improvident waste of capital to build two railroads for the purpose of doing the very same business; that three routes of travel and transportation between New York and Philadelphia were uncalled for, and would be useless and burdensome hereafter to the state.

Finally, a proposition was made to the Camden and Amboy railroad company, that the stock of the two companies should be consolidated, and that the joint companies should build both the canal and railroad, and that, *as a consideration for building the canal,* the railroad should be protected against competition for *thirty years* from its completion. *What is thirty years in the lifetime of an empire?* This step saved the canal to the state and to the country, for the proposition was fortunately accepted. In the details of this arrangement, the interest of the state, of the companies, and of the public were carefully guarded.

1st. *The interests of the state* were secured by a tax imposed upon the *income* of the joint companies.

They were to contribute to the treasury, not in proportion to the capital they invested in the works (the enterprise was an experiment, and that might have been unjust,) but they were required to pay ten cents tax for every passenger carried across the state; fifteen cents for every ton of merchandise transported on the road; eight cents for every ton of merchandise on the canal, except coal, and other low priced articles, for which the tax was fixed at two cents; and, in addition to this, they were required to pay to the state the annual dividend on two thousand shares of joint stock.

It will be perceived that this was, in principle, a tax upon the companies, proportioned to their income.

2d. The interests of the joint companies were protected by an express provision, that during their lease of thirty years no other railroad was to be granted to compete with them in business, in the carrying trade between New York and Philadelphia.

This protection was indispensable to enable the companies to complete the canal, and without which it never could have been made.

3d. The interests of the public were guarded. The companies were limited to a charge of three dollars a passenger from city to city; eight cents per ton per mile for transporting merchandise on the railroad; and four cents per ton per mile on the canal; and they were required to construct the canal seventy-five feet wide and seven feet deep, instead of the small dimensions originally proposed.

The canal, the burden of constructing which the joint companies took upon themselves, by virtue of this contract with the state, cost the sum of $2,892,797; and the total net receipts from it up to the present year, 1848, has been but $689,561 29, being an average of only a little more than one and a half per centum per annum on its cost.

This was the mode by which New Jersey chose to construct her part of the great Atlantic chain of inland navigation and transportation between the southern and eastern states; and it may be justly regarded as the most important link in that great chain, and of more value to the nation than any work of the kind as yet constructed in the Union.

But there is another chapter in the history of the joint companies which deserves to be understood and remembered.

No sooner had the problem of success been solved, and the railroad and canal put in operation, than the cupidity of speculators became aroused.

Pennsylvania had incorporated a company to make a railroad from Philadelphia to Trenton, and the road had been temporarily constructed That company, though not encumbered with an expensive and unprofitable canal, was allowed to charge more for carrying passengers per mile than the Camden and Amboy company. They determined to force their way across N. Jersey and bought up, for that purpose, a controlling interest in the stock of the Trenton and New Brunswick turnpike company, which connected their railroad at Morrisville with the New Jersey railroad from New Brunswick to Jersey city —and this was done under an express law of

the state of Pennsylvania, authorising them to do so. They applied to the legislature of New Jersey for such amendments to the turnpike charter as would enable them to effect their purpose; eminent counsel from Philadelphia were employed to advocate the grant before the legislature; *but it was denied.*

They then proceeded to lay rails upon the road without a grant; raised the cry of "monopoly" against the joint companies; commenced the work of agitation among the people on the new route, and set *themselves up as the exclusive patriots of the day.* During this struggle, to preserve the protection guaranteed to them by their charters, the joint companies voluntarily offered to *surrender all their* privileges, and convey the canal and railroad to the state.

The legislature considered the state policy as wisely settled, and refused to make any change. But the earnest desire which had been awakened among the people to have a railroad constructed between Trenton and N. Brunswick, demanded whatever of sacrifice was necessary to satisfy it.

The joint companies yielded to the call from that section of the country, and, with the consent of the legislature, constructed the road themselves, and connected it, at Trenton, with the Pennsylvania road. *It is on this new route alone,* which the companies were thus compelled to construct, (after the contract, in which the three dollar fare had been secured on the Amboy route, had been made with the state,) that the traveller between New York and Philadelphia pays *four dollars.* Thus the agitation of 1836 produced a third route of travel and transportation between the cities of New York and Philadelphia, at a necessarily increased rate of fare.

The agitators of 1848 want a fourth *route:* and, in *proportion to the outlay,* will, as heretofore, be the increase of price. Capital invested must necessary be remunerated; and the patriotism that seeks ostensibly to embark in speculation, nominally for the good of the people, is always a purchaseable commodity in the market.

The charges which have been made by newspaper writers against the joint companies, may be entitled to some notice, not out of respect to those who *write,* but with regard to the public who *read* them, and who, having no opportunity to judge of their truth or falsehood, are liable to be innocently misled. The directors of the joint companies, therefore, upon their personal responsibility, submit to the stockholders, and to the public, the following statements:

The Camden and Amboy company charges, between Philadelphia and New York, in their first class cars, three dollars; and in their second class cars, *two dollars and fifty cents,* and run one line between the cities as low as *two dollars and twenty-five cents,* making the average price for through passengers two dollars and fifty-eight cents. The hour of departure of this line from either city, is seven o'clock in the fall, winter and spring, and six in the summer. A second line has sometimes been run on this route, leaving either city at the most convenient hour in the middle of the day, and is now running at one o'clock, P. M. The cars are equal, if not superior, to any cars in the country. The steamboat on this route is new, and of great speed and comfort, and the trip is made in five hours and a half from city to city. Large and elegant steamboats are run upon the Delaware for nine months in the year, and four lines, or more, pass through Burlington, daily, affording to her citizens an accommodation by steamboat at twelve and a half cents, and by railroad at twenty-five cents, for passage to and from Philadelphia, a distance of about twenty miles. Season tickets are also granted by the steamboats, at a very low rate, making the rate of passage to a constant traveller, average about five cents between Burlington and Philadelphia, or about a quarter of a cent per mile. The time occupied by the steamboats in running between Philadelphia and Bordentown, notwithstanding the route for one-third of the distance is shallow navigation, is about two hours. The time occupied by the steamboats on the Hudson river, in running from New York to Newburgh, twice the distance, is about four hours. The speed, therefore, on these routes is about the same, instead of being fifty per centum greater on the North river, as has been stated.

By reference to the tabular statement, marked A, it will be seen that the average charge on all the passengers carried in their lines, is less than three cents per mile, and that the passengers carried in their various lines to and from New York and Philadelphia, average 3 5½ cents per mile

And by statement marked B, (to which reference will hereafter be made in regard to the rates of freight,) it will appear, from an average of all the railroads and branches in twenty different states, one hundred and seventeen in number, and six thousand seven hundred and twenty miles in length, that the average price of fare on them is three cents and fifty-one hundredths of a cent, or three and a half cents per mile.

The fare between New Brunswick and Philadelphia, by the Camden and Amboy line, is one dollar and eighty-seven cents, equal to three cents per mile.

For the better accommodation of emigrants destined to the south and west, a line was established in 1847, to leave New York at half past three in the afternoon, and arrive in Philadelphia early next morning, in time to take the lines for the south and west. This arrangement has met their wishes, and is the cheapest and best that could be adopted for them. As the steamboat lies in New York from five A. M., to half past three P. M., the advantages are, that the emigrant and his family, with their baggage, can come on board directly from the ship that brought them into port. They are furnished with comfortable cabins to lodge in, and facilities to provide their own meals on board the boat, without charge, thus saving them the expenses at a boarding house, and the transportation of their baggage. In winter they leave New York by steamboat, at half past three P. M., and arrive at Amboy in two hours, where they take the second class cars, and arrive at Camden about eleven o'clock. In summer they go from New York to Amboy, by steamboat, in two hours; from Amboy to Bordentown, in cars, in three hours; lodge on board of the steamboat at Bordentown free of charge; leave Bordentown, by steamboat, early next morning, and arrive in Philadelphia at seven o'clock, in time for all the lines going south and west, and are not on the road eighteen hours, as has been asserted.

By the steamboats and transportation and market lines, the farmer pays no more for the transportation of his wheat, nor the paper maker for his paper, than formerly. For the accommodation of the peach growers, special trains are run from the different stations on the road between Camden and Amboy, at hours best suited to the trade. The time of leaving each station, and the price of fretght per basket from Burlington to New York, is made known by advertisement. A train leaves Burlington at a quarter after five, P. M., and arrives at New York from four to five o'clock next morning, in time to connect with the northern and eastern boats, and not at noon, as has been stated.

A peath grower or dealer carrying twenty baskets is permitted to take them without being subject to a charge for his own passage. The hours of departure of these lines were established upon consultation with, and in reference altogether to, the wishes and interests of the people engaged in this trade, and were fixed at an hour as early as would enable them to pick their fruit and bring it to the railroad stations.

It would have been to the interest of the companies to have run another early peach line to the noon boat, to have taken from the late line a portion of the peaches, if the morning dew would have permitted their being picked in time to reach the stations in season, and would have saved the expense of employing occasionally a third boat to take the excess beyond what the regular boat could carry.

In the passenger trains it is not usual to carry freight; but, upon the application of a grntleman from Burlington engaged in raising, on a small scale, peaches and grapes, arrangements were made to carry these fruits in the quick passenger line; others applied, and were accommodated; and no one that applied was refused.

The reason why farmers, generally, do not go to New York with their marketing is, that dealers constantly call at their doors, purchase their truck, and send it to market by the railroad, while the farmer remains at home, attends to his business, and saves the times and expense of going to market, and gets good prices for his products; and distinction has always been made in favor of persons taking their marketing to the cities. By the market line between Burlington and Philadelphia, persons having freight to the amount of thirty-seven and a half cents are charged fare only one way.

That the charges for freight are not unreasonable, is proved by the fact that fruits, vegetables and meats, in large quantities, are

constantly transported from Philadelphia to New York, pay the freight, and afford a profit to the dealers.

But, it may be more fully understood, and more satisfactorily illustrated, by reference to the tabular statements appended to this address, which have been made with great care from the most accurate information.

By the tables it will be seen that the average price of *freight* between New York and Philadelphia, by the Delaware and Raritan canal and the Camden and Amboy railroad, is one cent and twenty-nine hundredths of a cent, or a little more than one a quarter of a cent per ton per mile, whilst the average freights on one hundred and seventeen railroads and branches in twenty different states in the Union, is seven cents and fifty six hundredths of a cent per ton per mile, or more than six times higher than the freights on the canal and railroad; and, although it would seem that the freights on the railroad are nominally higher than on the canal, yet still, it will be seen that they are not one half as high, in proportion to the value of the articles transported on these different routes belonging to the same companies.

It will be also seen from these tables that the large bulk of the business is done thro' the canal; the transportation on that work being forty three times greater than on the railroad, leaving for the railroad but the carriage of the most valuable articles, the freight upon which is less than three quarters of one per cent. on the value, to cover transpertation, insurance, tolls, and station charges; and even this small portion of the trade could be taken through the canal for three-fourths of the year, did not the owners and shippers consider it cheaper and more to their advantage to send it over the railroad.

The average of freights charged on the railroad is forty and three quarter cents per hundred through; and on the canal for *merchandise*, two cents and twenty seven hundredths of a cent; and on the whole trade one cent and twenty nine hundredths of a cent per ton per mile.

The plain statement deduced from figures will show how far the united companies have deserved the malignant vituperation with which they have been assailed.

In relation to the rectless and attrocious charges made against the state directors, and in regard to the inaccuracies in the accounts, and misapplication of the funds of the companies, it is proper to say that a regular account of all the through and way passengers is made semi annually to the directors, and the necessary returns are made to the state treasury every three months, under oath.

The accounts are kept with so much care and particularity, that any stockholder may be informed at any time of the number, and, for the most part, the names of all persons who go between New York and Philadelphia, or between any two points on the road, on any day in the year, and the amount paid by each. The receipts and expenditures of the several steamboats employed in towing, are particularly kept and regularly returned to the company by their agents; also the allowance for carrying the United States mail, as received from the postoffice department.

There never has been one dollar received or expended by the companies, that has not been laid before and approved by the directors as well as by the stockholders. Their books and accounts have been, at different times, examined by the directors, and by persons appointed by the legislature of the state, and no error has yet been discovered, altho' investigations have, more than once, been induced by the false representations of disappointed and unprincipled men, who have pretended that they knew that frauds had been committed, and the manner in which they could be discovered by a committee of investigatton. During the last six months the state directors, pursuant to the requirements of the statute, made a strict and thorough examination of all the business transactions and accounts of the companies. They made an elaborate report, which has been published by the legislature. In that report they say:—"We have with great care examined the books and vouchers, and other evidences, to test their correctness. We have pursued our investigation by taking the different months in the year, and following the entries through the various books, and comparing them strictly with the original vouchers, which in every particular were found correct. We have had at all times, free access to the books and papers of the companies, and, during our preparation of this report, for the last two weeks, the said books and papers have been left in our custody and control, apart from their officers and agents." And it may be well now to state that no director or officer of the companies ever saw a single line of the said report, until the same was communicated by the governor to the legislature, and published by their order.

Again: It is no doubt true that the statement has been industriously circulated abroad, that New Jersey imposes a tax upon the citizens of *other states* for travelling on her railroads: but that the companies have ever given countenance to this falsehood is not true. In all the reports that have been made—in every paper emanating from them—this matter has been placed in its true light. It has everywhere been mentioned as *a tax imposed upon the companies, and not upon the passengers.* Nor have the companies ever done, or authorised to be done, one act, or said, or authorised to be said, one word, from which, or upon which, any other inference could be drawn or founded.

Once more: It may not be amiss to remark, that a question has been made as to the construction of that section in the charter of the Camden and Amboy railroad company which relates to the rate of charges for freight upon the railroad. The question has been argued in the supreme court, before three of the judges only, and decided against the construction contended for, and practised by these as well as every other railroad company in the state of New Jersey. As the question is one of great importance, and as it is impossible to carry into practical operation that section of the charter under the present decision, a writ of error has been taken to carry the case up to the court of errors, a right which is enjoyed by the humblest individual in society. But, as soon as the decision was announced, orders were issued by the companies to their agents to conform as far as practicable, to the opinion understood to be entertained by the court, without waiting for that of the court of errors.

And now, having, as briefly as was possible, submitted the facts to the judgment of an enlightened, and canded public, we leave the subject, with an abiding faith in the intelligence and justice of our fellow citizens.—The joint companies are, in one sense, but the agents which the state, in its wisdom, has seen fit to employ in perfecting a portion of the internal improvements of the state. The risk, the hazard of success, the companies took upon themselves. The works have been constructed, and are beginning to be a source of profit to them, as they have always been of revenue to the treasury.

In their construction an arduous duty has been performed. They have had to deal in their progress with some millions of individuals, and through the agency of thousands whom they have from time to time employed for that purpose. That no errors have been committed—that nothing has ever been done to furnish cause of complaint—could not be presumed, without claiming for them and those in their employ an infallibility of judgment unknown among men. But that they have ever endeavored faithfully to discharge their duty to the state, the public and the stockholders, they most solemnly aver; and have ever bowed with cheerful and deferential submission to the authority of the law.

If they have unintentionally erred in judgment, in reference to questions affecting the rights of others, the courts have ever been ready to measure the same equal justice to the humblest individual as to themselves. It is, and ever has been, their earnest desire to give satisfaction to the public. But to lie down and be trampled upon, or to stand silently by and listen to the storm of vituperation and abuse and calumny, which is raised for the ultimate purpose of plundering them, at the same time of character and property, is as far from their duty as it is from their disposition.

These are sacrifices which no good citizen is called upon to make, and which neither virtue nor patriotism requires. Protected by the same laws to which they owe allegiance, and confident in their justice and power, they are consoled with the reflection that they live in a state which knows what its duty to its citizens is, and knows how to discharge that duty.

J. J. Chetwood, Wm. Irick, *State directors.*

John Potter,	Wm. McKnight,
R. L. Stevens,	Abm. Brown,
E. A. Stevens,	Richd. S. Field,
R. F. Stockton,	James Potter,
John R. Thomson,	James S. Green,
James Parker,	James Neilson,
Carret D. Wall,	Benj. Fish,
John W. Mickle,	J. C. Stevens.

Bordentown, June 11, 1848.

[A.]

Statement of the Business of the Camden and Amboy Railroad and its Branches, and Philadelphia and Trenton Railroad, for the Month of May, 1848.

	Number of passengers.	Miles carried.	No. passengers carried 1 mile.	Total am't received for fare.	Amount received on each passenger pr mile.
WAY PASSENGERS.					cents.
Way travel on the Philadelphia and Trenton railroad	8,077		222,134	$4,268 18	1·9¼
Way travel from Philadelphia to New Brunswick, and intermediate places on the branch and Trenton and Philadelphia railroads, with the 9 and 4½ o'clock trains	1,861½		67,443	2,818·17	4·1½
Trenton and New York accommodation line from Trenton to Jersey city	992	58 8	58,329	1,372·17	2 3½
Aggregate way travel of the Philadelphia and Trenton and branch road from Philadelphia to Jersey city	10,930½		347,906	8,458·52	2·4½
Camden and Amboy way lines	23,994		493,698	6,189·81	1·2½
Aggregate of way business on the Camden and Amboy and Philadelphia and Trenton railroads	34,924½		841,604	14,648·33	1·7½
THROUGH PASSENGERS.					
Through Camden and Amboy 6 and 1 o'clock lines	8,465		761,850	23,531·25	3·0½
Through Camden and Amboy emigrant line	3,213		289,170	7,227·58	2·5
Through 9 and 4½ o'clock lines, via New Brunswick, New York and Philadelphia, ($4)	9,070½	90	816,345	36,282·00	4·4½
Through 9 and 4½ o'clock 2d class lines, via New Brunswick, N. York and Philadelphia, ($3)	2,118		190,620	6,354·00	3·3½
Aggregate of through passengers on the Camden and Amboy and Philadelphia and Trenton railroads	22,866½		2,057,985	73,394·83	3·5½

From the above it appears that 34,924½ way passengers were carried 841,604 miles, at the average charge per mile of 1 cent 7 1-2 mills; and that 22,866½ passengers were carried through 2,057,985 miles at the average charge per mile of 3 cents 5 1-2 mills, or an average charge on both of 2 cents 6 1-2 mills.

[B.]

General Statement, showing the Number of Railroads and Branches in the United States, their total Length, and the Averages of Frre per mile for first and second class and way passage, and first and second class freight per ton per mile, (omitting the Camden and Amboy and Union Transportation Railroads), taken from Doggett's Railroad Gwide for 1848.

NAMES.	Number of railroads and branches.	Total length miles.	1st class passage per mile—average in cts. & hundredths of a cent.	2d class passage per mile—average in cts. & hundredths of a cent.	Way passage per mile—average in cts. & hundredths of a cent.	Whole average of 1st and 2d class fares and way fares.	1st class freight per ton per mile—average in cents and hundredths of a cent.	2d class freight per ton per mile—average in cents and hundredths of a cent.
Maine	3	226½	2 82	2 50	2 57	2 63	5 68	3 38
New Hampshire	2	99	3	3	2 62	2 87½	5 25	5
Vermont	1	33	3	3	3	3	4	4
Massachusetts	36	1,929½	2 43	1 66	2 71	2 27	5 47	4 54
Rhode Island	2	91½	3	2	3 16	2 72	6 37	4 39
Connecticut	4	253½	2 50	1 75	2 20	2 15	5 75	3 50
New York	20	798	3 17	1 50	3 75	2 81½	9 04	5 79
New Jersey	4	155	4	3 33	3 54	3 62½	13 57	11 66
Pennsylvania	9	355	3 60	3 26	3 60	3 48½	6 75	5 35
Maryland	9	661	3 45	3 45	3 58	3 49½	4 56	3 12
Virginia	6	264½	4 74	2 38	4 72	3 94½	10 44	4 69
North Carolina	2	248	4 23	4 23	4	4 15½	9 83	6 37
South Carolina	2	204	5	5	5	5	10 75	5 50
Georgia	5	602	4 14	4 14	4 70	4 32½	9 33	4 78
Kentucky	1	28	4 46	4 46	4 46	4 46	9	9
Mississippi	2	70	5 35	5 35	6	5 56½	24 30	17 30
Alabama	1	67	4 50	4 50	5 50	4 83½	16 33	8
Ohio	4	307	2 77	2 77	2 66	2 73½	6 60	4 62
Indiana	1	86	3	3	3	3	8	5 81
Michigan	3	241	3	3	3 32	3 10½	8 44	6 50
20 states—totals	117	6,720	20) 72 16	20) 64 28	20) 74 09	20) 70 19	20) 179 46	20) 120 30
Averages			3 60	3 21	3 70	3 51	8 97	6 16
								8 97
								2)15 13
							Average,	7 56

[C.]

Statement of the Cost of Transportation per mile on the Canal and Railroad, for the month of May, 1848, between New York and Philadelphia.

	Tons. Carried.	For 1 mile.	Freight.
On the canal,	84,488, 110 miles=	9,293,680,	$100,984
" railroad,	1,983, 90 " =	178,470,	21,115
	86,471	9,472,150	122,099

Or an average freight on both works of 1 cent and twenty nine hundredths of a cent per mile.

[D.]

Amount of Transportation Freights on the Camden and Amboy Railroad, and in Barges via Delaware and Raritan Canal for the month of May, 1848.

Through freight.	Tons. Miles. 1 mile.	Freight charged.
Cam. & Am. R.R.	1,983x 90= 178,470	$21,215
Del. & R. canal.	8,640x110= 950,400	18,882
	1,128,870	40,097= 3·55

Or average freight 3 cents and 55 hundredths of a cent per mile; and 72 barges, the cargoes valued at $14,500 each, $1,044,000; and the freight is therefore equal to 1 cent and 39 hundredths of a cent on $100 value.

Estimate of value of freight on Camden and Amboy railroad, taken from way bill, $378; weight 92,744 pounds, valued at $51,841; equal to 40¾ cents per hundred pounds freight, and on value of goods 73 cents to $100.

[E.]

Statement of the Trade on the Delaware and Raritan Canal, for the month of May, '48, showing the articles carried through, the Rate of Freight on the articles, the total amount of Freight paid, and the value of the articles.

Articles carried through.	Quantity.	Average rate freight.	Total freight.	Total value.
	Tons.	Rate.	dollars.	dollars.
Coal	67,478	$1·12½	75,912	369,912
Grain and feed, 27,350 bushels	615	4	992	13,675
Lime, 44,229 bushels	1,490	4	1,769	7,076
Salt, 1,550 bushels	52	4	61	310
Timber and lumber, 1,525,957 feet	3,178	1·00	1,525	15,728
Pig and railroad iron	1,675	1·50	2,512	76,375
Flour and corn meal 4,833 barrels	440	18¼	906	21,748
Whiskey, 531 barrels	66	25	133	4,248
Fish, 97 barrels	14	25	24	776
Nails, 1,805 kegs	90	7	125	8,122
Hay and straw	368	1·00	368	3,680
Ice	803	1·25	1,004	4,015
Stone	668	1·12½	751	1,002
Sand	365	1·12½	405	547
Clay	375	1·12½	417	1,125
Brick, 72,770	145	1·12½	82	873
Merchandise	6,666	2·27	13,998	1,513,182
By canal, tons.	84,488		100,984	1,942,394

☞ The railroads completed in the United States and in use, extend to 5,780 miles, at a first cost of $152,525,938. All this has been affected in 17 years. About fifteen millions per annum are now expended in railroad construction.

Wabash and Erie Canal.

A.—*Description of the Wabash and Erie Canal, and the mechanical structures thereon, showing their condition on the 1st of July, 1847.*

Continued from page 489.

The next structure is the Wabash dam No. 1, erected across this river one-half mile below the mouth of Little river, generally known as the "Forks," for the purpose of a feeder. This dam is 220 feet long and 10 feet high, formed of cribs filled with stone, resting on a solid rock bottom. It is in a safe condition excepting the abutments, which being built of timber, are much decayed, requiring renewal before the return of winter. The culvert and head gates by which the feeder is introduced into the canal, have just been rebuilt, and are in good order. This feeder is three chains long.

Just below this dam is road-bridge No. 18, which may last five years.

The next structure is the dam across Clear creek, through the pool of which, the canal is taken across this stream. It is 163 feet long and 6 feet high, on a rock bottom. The abutments are of wood, and will need rebuilding within two years. The towing path across Clear creek has been recently rebuilt, and will last for seven or eight years, unless carried off by the creek flood.

A few rods below Clear creek, a flood-gate has been constructed in the towing path which is opened during high water, for the security of the canal. It is built upon "English's patent," with permanent stone abutments.

Culvert No. 44, built of timber, 10 feet by 2 feet—submerged.

Culvert No. 45, a large arch for the passage of Woodworth's creek, four miles west of Huntington. The arch is a semi-circle of 24 feet chord, built of timber. With some repairs to the head walls, this structure will last three or four years, when it must be rebuilt of cut stone.

Lock No. 11 is situated a few rods west of the above described arch. It is upon the *wooden crib plan*, of six feet lift, though the walls are of an equal height with an eight feet lift, as a guard against the floods of Clear creek. The four upper courses of this lock, with the entire set of gates and the hollow quoin posts, require renewal during the ensuing winter. With this immediate expenditure, the lock will last till, say, 1850.

Culvert No. 46, 4 feet by 2—can be submerged for $200.

The next structure is a long waste wier to discharge the floods of Clear creek—a breast wall and sides built of timber, will last seven years.

Culvert No. 47, of wood, 2 spans, 10 by 2 feet—submerged.

Waste weir, 70 feet long—timber breast and side walls, may last six years.

Flood-gates built upon "English's patent," with stone abutments.

Culvert No. 48 is a rough stone arch of 6 feet chord, sprung from abutments 2 1-2 feet high.

Road bridge No 19, will require rebuilding in 1849.

Culvert No. 49, of wood, 2 spans 10 feet by 2 feet, submerged.

Culvert No. 50, of wood, 10 feet by 2 feet, submerged.

Culvert No. 51, of wood, 10 feet by 2 feet, submerged.

Culvert No. 52, of wood, 2 spans, 10 feet by 2 feet, submerged.

Lock No. 12, 8 feet lift, built of cut stone, from the Salamania quarry. These stone are not sufficiently durable to answer in a situation so exposed as the face of the lock, and are beginning to fail under the action of the weather. With some repairs occasionally, the lock may be made to last a number of years. The gates will need rebuilding in 1850.

Culvert No. 53, of wood, 10 feet by 18 inches, submerged.

Lock No. 13, 7 feet lift, of cut stone. The description of lock No. 12, just preceding this will apply to this. Gates will need renewal in 1850.

Road bridge No. 20 will last two years.

Culvert No. 54, for the passage of Lagro creek, 2 arches, each 11 feet chord, built of stone. The stone are not of a durable quality, yet being less exposed than in a lock, this structure may be considered permanent for a number of years to come.

Locks Nos. 14 and 15, situated in the town of Lagro, each 6 feet lift, built of cut stone. The stone procurred from Salamania quarry. In certain portions of the wall the stone are beginning to decay. The locks being of small lift, will doubtless answer the purpose for many years. The gates of both locks need renewal in 1850.

Just below lock 14, the feeder is introduced from the Wabash river, by a set of wooden culverts and head gates, placed under the towing path, the culverts being under water. The head gates are in good order.

Wabash dam, No. 2, erected for the purpose of this feeder, is situated immediately at the town of Lagro. It is 280 feet long, and 7 feet high, resting on a rock bottom, and formed of cribs filled with stone. The abutments are of stone, and the whole structure is permanent and in good condition, with the exception of a wing to the south abutment, which is of wood, and will need rebuilding in 1849.

Road bridge No. 21, just below the dam, will last 5 years.

Culvert No. 55, of timber, 3 spans, 12 feet by 2½ feet, submerged.

Culvert No. 56, of timber, 2 spans, 12 by 2 1-2 feet, submerged.

Culvert No. 57, of timber, 10 feet by 2 ft., submerged.

Culvert No. 58, of timber, 8 feet by 2 feet, submerged.

Culvert No. 59, of timber, 10 feet by 2 ft., submerged.

Flood gates with stone abutments, in good condition.

Road bridge No. 22, nearly new.

Road bridge No. 23. This will last two years; it is of extra length.

Lock No. 16, in the town of Wabash, 9 feet lift of cut stone. The stone of which this lock is built is very imperfect, and wholly unfit for lock masonry. By frequent repairs, this lock may be made to stand 8 or 10 years. The wing wall forming the tumble, has fallen down and must be repaired during the ensuing winter. Gates will need rebuilding in 1850.

Culvert No. 60, a rough stone arch of 8 feet chord, badly constructed.

Culvert No. 61, a rough stone arch, 8 feet chord, imperfectly built. This culvert, and the one last described, are insufficient in capacity for the passage of the floods. Injury to the embankments frequently occurs from this cause.

The next structure is flood gates with stone abutments.

Culvert No. 62, of wood, 5 spans, 12 feet by 2 1 2 feet, submerged.

Road bridge, No. 24 will last 2 years.

Culvert No. 63, an arch of 6 feet chord, built of rough stone; both the material and workmanship are imperfect. It may last 10 or 15 years, but is liable to fall at any time.

Lock No. 17, 6 feet lift, of cut stone. The quality of the stone, and probable durability of the lock, are well represented in the description just given of lock 16; gates will last 2 years.

Culvert No. 64, of wood, 10 feet by 18 inches, submerged.

Culvert No. 65, 12 feet by 2 1-2 feet, built of wood, submerged when there is water in the creek. It is no doubt permanent for 10 or 15 years.

Culvert No. 66, of wood, 10 feet by 18 in., submerged.

Culvert No. 66, of wood, 12 feet by 3 feet, submerged.

Culvert No. 68, of wood, 2 spans, 10 feet by 2 1-2 feet. The whole of the timber may be submerged by an expenditure of five dollars.

Lock No. 18, 6 feet lift, built of timber, upon the *wooden crib plan*. By renewing the two top courses, the lock may last four years, gates will need renewal in two years.

Culvert No. 69, of wood, 3 spans, 12 feet by 2 1-2, submerged.

Road bridge No. 25 will last two years.

Culvert No. 70, of wood, 3 spans, 12 feet by 2 1-2, submerged.

Lock No. 19, 6 feet lift, of cut stone; stone not durable, beginning to yield to the action of the weather. With some repairs may last 8 or 10 years; gates will need renewal in 1849.

Lock No. 20, 6 feet lift, of cut stone, the stone from the same quarry with those just described. The upper courses of one wall, for 2 or 3 feet in height is much dilapidated, and partly removed. This should be repaired during the ensuing winter. The gates will last 2 years.

Just below lock 20, a feeder is introduced from the Wabash river. This feeder is 15 chains in length, and at its mouth is a guard lock with cut stone abutments, built for the purpose of passing rafts and other floats from the river into the canal, and also to regulate

the flow of water. The feeder is partially filled with drift wood, which must be removed. The lower gates of the guard lock must be renewed next winter.

Wabash dam No. 3, at the town of Peru, erected for the purpose of the feeder just described, is 400 feet long and 11 feet high. A part of this structure is on rock bottom, and part on a coarse gravel. The foundation up to low water is formed of brush and trees, covered with an apron of hewn timber on which is erected a timber crib filled with stone. This dam may be called a safe and permanent structure, with the exception of the abutments, which are of timber and much decayed. One abutment must be renewed during the present summer, and the other during the next season. A portion of the covering timber, on the lower slope for 20 feet in length, has been washed off and must be renewed during the present low water.

In the guard bank which extends from the dam abutment to the guard lock, and which forms the lower bank of the feeder, there is a series of large wooden culverts, with sliding gates at the upper ends. This structure was erected to pass the surplus water from the pool of the dam to the mill below. It is now found to be in bad condition, the water leaking through and around it. Some expenditure for repairs will doubtless be required during the ensuing year,

Just below the mouth of the feeder is road bridge 26, will last 4 years.

Road bridge No. 27, for the crossing of Broadway, in the town of Peru, requires at once certain repairs, equal to half the cost of a new bridge.

Road bridge No. 28, at Col. Reburn's must be rebuilt in 1848.

Culvert No. 71, of wood, 6 feet by 18 in., submerged.

Culvert No. 72, of wood, 3 feet by 1 foot high, submerged.

Culvert No. 73, for LaFontain's creek.—This is a cut stone arch, 15 feet chord, recently rebuilt of stone from the Georgetown quarry. The stone are of excellent quality, and the arch is perfect. The head walls are unfinished, though the stone are prepared for this purpose. To finish the work will cost $50.

Culvert No. 74, of wood, 12 feet by 2 feet, not entirely submerged, but may be permanently covered with water by an expense of $15; this should at once be done.

The next structure is lock No. 21, 8 feet lift, 4 miles below Peru. This lock is built upon the wooden frame plan, was erected in 1837; the caps and upper timbers are decayed, by renewing which, the lock will answer one or two years longer. Gates will last 4 years.

Culvert No. 75, of wood, 10 feet by 18 in. submerged.

Road bridge No. 29, will need rebuilding in 1849.

Road bridge No. 30, at Lewisburg, should be rebuilt in 1848.

Lock No. 22, 7 feet lift, built upon the wooden frame plan. The frame work and the crib down to the water of lower level, must be renewed during the ensuing winter; the gates must be rebuilt immediately.

Culvert No. 76, rough stone arch, 8 feet chord.

Road bridge No. 31, will last 4 years.

Culvert No. 77, 10 feet by 18 inches, of wood, not entirely submerged. To place it permanently under water will cost $10.

Culvert No. 78, 6 feet chord, arch built of rough stone. It is imperfect, and probably will have to be rebuilt of better stone in a few years.

Flood gates with wooden abutments, solid rock bottom, must be rebuilt in 1849.

Culvert 79, of wood, 10 feet by 18 inches, submerged.

Lock 23, 8 ft. lift, built upon the combined plan—will require new caps with new uprights, and planking from the top three feet down, during the ensuing winter. The gates must be renewed in 1849.

Road bridge 32, requires two new stringers and half new floor, with this repair it will last six years.

Culvert 86, of wood, 10 feet by 18 inches, submerged.

Culvert 81, of wood, 6 feet by 18 inches, submerged.

Culvert 82, of wood, 6 feet by 18 inches, submerged.

Culvert 83, a very small wooden culvert, put in as a land drain, submerged.

Culvert 84, of wood, 10 feet by 18 inches, submerged.

Culvert 85, of wood, 6 feet by 18 inches, submerged.

Lock 24, 7 feet lift, built of cut stone, imperfectly made, leaks very much, with some repairs it may answer the purpose of a lock for many years. The gates will last three years. This lock is in the town of Logansport.

Aqueduct 5, over Eel river, wooden trunk of 5 spans, 50 feet each, resting on stone abutments and piers, built on solid rock foundation. The stone of durable quality. The trunk was rebuilt last year and the whole structure may be considered permanent for 8 or 10 years to come.

Within the town of Logansport there are three road bridges, nos. 33, 34, and 35, all of which need rebuilding within the next year.

Culvert 86, of wood, 10 feet by 18 inches, submerged.

Lock 25, lift 9 feet, built of cut stone; the stone from Lasselle's quarry, of very inferior quality, soft and perishable, wholly unfit for lock walls. The walls of this lock are much dilapidated, the portion of wall from the lower gates around to the end of the wing walls, will probably require to be rebuilt next spring at a cost of some $2,500. Other portions must be renewed soon, until the whole walls are rebuilt; the gates will last two years.

Road bridge 36 must be rebuilt during the next winter.

Lock 26, 9 feet lift, of cut stone, from the same quarry with that in the lock just described. The wall below the lower gates was rebuilt of good stone, during the last winter and spring. Some further repairs will be required next winter, and within a few years the entire balance of the lock wall must be rebuilt; gates are one year old.

Culvert 87. Rough stone arch, 8 feet chord, built of imperfect stone. The arch leaks considerably, but may stand for several years.

Culvert 88, 10 feet chord; the arch was built last winter of cut stone from the Georgetown quarry, of excellent quality; head wall at lower end not built, to finish the work will cost $75.

Culvert 89, to pass water to Lessell's mill, of wood, submerged.

Culvert 90, of wood, 10 feet by 18 inches, submerged.

Road bridge 37, with new floor may last three or four years.

Culvert 91, at the Georgetown stone quarry, built of wood, 2 spans, 12 feet by 2 feet, to submerge it fully will cost $10.

Culvert 92, of wood, 6 feet by 18 inches, submerged.

Culvert 93, a small wooden culvert, submerged.

Road bridge 38, should be rebuilt in 1849.

Aqueduct 6, over Crooked creek, one span of 28 feet resting on stone abutments; trunk of wood, must be rebuilt during the ensuing winter.

Lock 27, 8 feet lift, built of cut stone from Georgetown quarry. The stone are durable but the workmanship very imperfect. The gates are two years old.

Road bridge 39, may last three years.

Culvert 94, of wood, 2 spans, 12 feet wide and 2 feet high, submerged.

Culvert 95, of wood, 6 feet wide 18 inches high, submerged.

Road bridge 40, will last three years.

Culvert 96, of wood, 6 feet by 18 inches, submerged.

Culvert 97, 8 feet by 18 inches, of wood, submerged.

Road bridge 41, will last three years.

Culvert 98, of wood, 6 feet wide by 18 in. high, not entirely submerged.

Culvert 99, of wood, 2 spans, each 10 feet by 18 inches high, submerged.

Culvert 100, over Burnett's creek, an arch of 20 feet chord, built of hammer dressed stone, in good repair excepting the ring stone at each end, a part of which are of soft stone and are falling to pieces.

Lock 28, 10 feet lift, built upon the *combined plan*, the plank facing renewed last winter, the gates also new.

Road bridge 41, will last 2 or 3 years.

Lock 29, 9½ feet lift, built upon the *combined plan*, needs immediately new caps and new planking for 3 feet next the top, gates are new.

Road bridge 43 will last 3 years.

Culvert 101, of wood, 10 feet by 18 inches, submerged.

Culvert 102, of wood, 10 feet by 18 inches, submerged.

Lock 30, 7 feet lift, built upon the *wooden crib plan*. During the ensuing winter the top course and part of the second course, with some of the upper planking should be renewed; with these repairs the lock may last 4 years. Gates one year old.

To be continued.

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THE PATENT DOUBLE CYLINDERS,
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May 6, 1848.

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The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelp'ia.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, Slabbing, Plaining, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

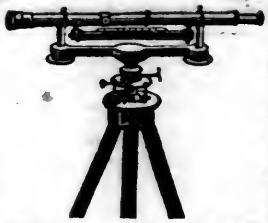
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

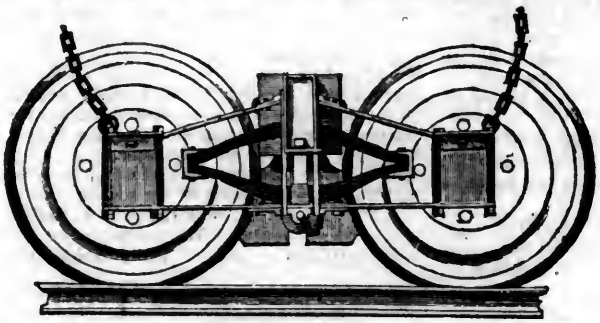
MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

RAY'S EQALIZING RAILWAY TRUCK.---THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

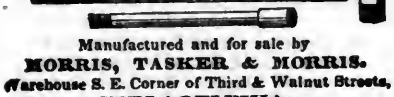
1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ed barrels, by JOHN W. LAWRENCE, 142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

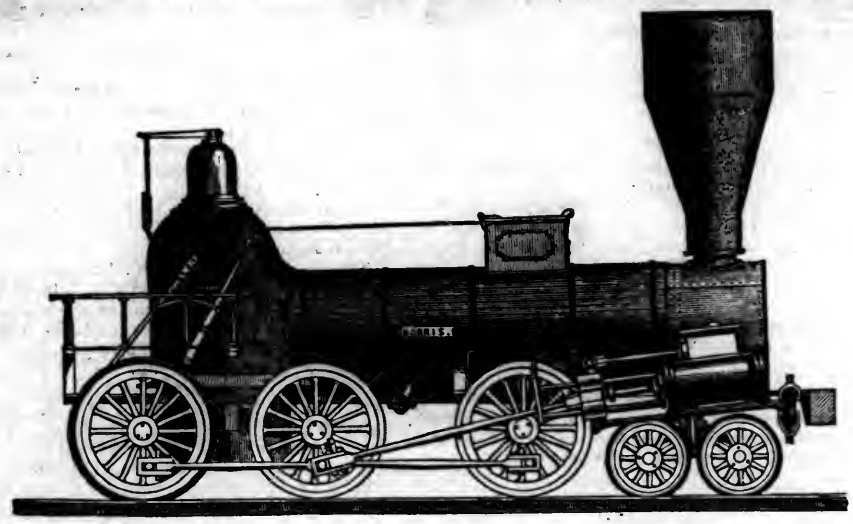
General Agent,

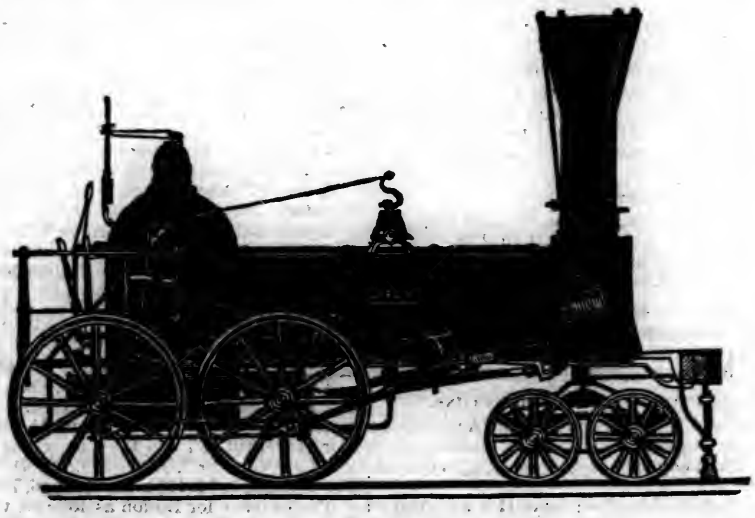
Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger



trains will leave daily, Sun-



days excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p.,m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.


This Road in connection with the South Carolina Railroad and

Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.


This Road is open for the transportation of Passengers and

Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons..... $5 00 per hhd.
On molasses and oil..... $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
.y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday, leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after


Tuesday, June 1st, 1847, the cars

will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.
Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.
Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.
Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.
White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.
Pleasantville, 8 15 a.m. and 5 15 p.m.
Newcastle, 8 a.m. and 5 p.m.
Mechanicsville, 7 48 a.m. and 4. 48 p.m.
Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.
Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.


Commencing July 3d, 1848.


Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after


Monday, April 3, 1848, the

Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pitsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAILROAD. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Ja., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

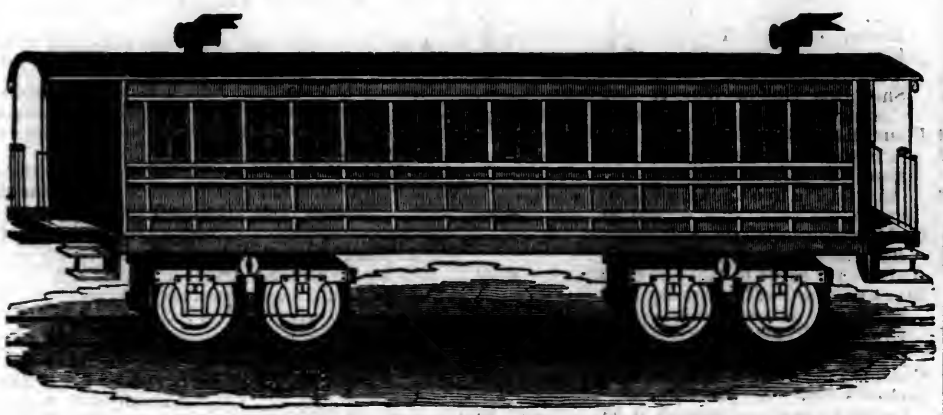
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartsbrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*
REUEL DEAN, ELIJAH PACKARD, ISAAC MILLS, } SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor,*
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 33] SATURDAY, AUGUST 12, 1848. [WHOLE No. 644, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, August 12, 1848.

Railway Traffic.

"From our official returns," says the Chronicle, "it appears that the amount of traffic for the last* week, on 3,807 miles of railway, was £196,954, thus accounted for: £104,143 for the conveyance of passengers only, £46,836 for the carriage of goods, and a remainder of £45,975 for passengers and goods together, not respectively apportioned; being an increase of £30,843 over the corresponding week o last year, when the mileage was 3,016. The average earnings per mile were £52, while in 1847 they were £55."

* *Whitsun.*—The amount taken in Whitsun week last year was £194,693, giving £61 per mile.

Lexington and New Madrid Railroad.

A spirited railroad meeting was recently held at Warsaw, Ill., to consider the matter of constructing a railroad "from New Madrid, or some point near that place, below the freezing point on the Mississippi river, by way of Warsaw, to Lexington on the Missouri river." Resolutions were unanimously adopted, setting forth the advantages of making the road, and evincing a determination to engage in the work at an early day, and with vigor. The proposed route, it was observed, would run through a portion of the most fertile land in the United States, also through the finest mineral region known in the world—a region combining the facilities of great water power with the advantages of timber in abundance. The work was adjudged to be "of immense importance to the people, in opening up to them a fine southern market at all seasons of the year, thereby inviting and increasing emigration to the State, and greatly augmenting the wealth, population and prosperity of the people, in giving a new and powerful impulse to the agricultural, mechanical, commercial and manufacturing interests of the people."

Northern Railroad.

The report of the directors of this railroad, says the Ogdensburg Sentinel), is on our table. It presents a very cheering account of the affairs of the company, which is highly creditable to the energy, and business talent and integrity of those to whose hands the conduct of this important work has been entrusted.

The survey of the route and the location of the road has been completed to within four miles of the eastern terminus at Rouse's point. The final location is "deferred only to admit of the exercise of every precaution in concluding negotiations for grounds and privileges so important to the company there."

At the meeting in October last, contracts were entered into for grading the whole line, to be completed ready for the superstructure, in July, 1849. One thousand men are now employed on the westerly half, and the number is about being further largely increased. Thirty miles of the road next to the lake are to be ready for the superstructure by October next.

Nearly all the lands necessary for roadway, for a distance of 114 miles, of sufficient width for a double track, have been secured to the amount of 1,206 9-1000 acres, at an estimated cost of $9,491 98.

At this place an area of 62 acres has been purchased, promising a terminus of an ultimate waterfront of 4,000 feet, accessible the entire distance to any vessel navigating the western lakes.

Col. Schlatter has been employed as chief engineer. Two assessments, amounting to 20 per cent. of the stock, have been laid, and the payments have generally been promptly met. Some have delayed on account of local difficulties, but those are wearing off, and the directors seem confident that no serious difficulty will result from this cause.

The friends of the road have abundant reasons to be gratified at the position of its affairs. The spirit of internal improvement is abroad in Canada, and the construction of this road is made the rallying point of the friends of a road from Prescott to Bytown. A meeting was held at Prescott a few days since for the purpose of promoting this object, and we understand some vigorous measures adopted for its prosecution. Success attend them.

Talladega Iron.

We noticed recently, says the Alabama Flag and Advertiser, some wagons loaded with iron, which evidently were from some part of the State above us. On inquiring, we found that they were three wagons loaded with iron from Talladega, brought down to this market. We are glad to see a new branch of trade opening for this city. Enough of iron to supply the Union can be procured from the Talladega mines, iron equal to any in the world, and far superior to most of the iron brought to this market. That we should purchase iron from Sweden, England or Pennsylvania, when there are inexhaustible mines of that metal in our own State, would seem to imply some deficiency on our part, either in enterprise, industry or some other quality.

Further Effects of Light in Dark Places upon the Camden and Amboy Railroad Co.

Your notice of "the effects of light in dark places," was well calculated to animate your readers to exertion in the great cause of free trade *versus* monopoly, by showing them how much has already been accomplished, notwithstanding the boasted strength of the Camden and Amboy railroad company. Rely upon it, when the day of trial shall come, *as come it soon will*, it will be found as weak as Louis Philippe proved to be on his day of trial. With very slight exertion, the whole edifice upon whose construction the sovereign of France had spent nearly eighteen years, was toppled over. So will it be here. The kings of New Jersey have also been eighteen years at work. *Their 24th of February* has not yet arrived, but *it is at hand.*

That such is the case, every day affords new evidence. They have found themselves compelled to make an "Address" to the people of New Jersey, the weakness of which is obvious to all, and the fallacy of which can, and will, be proved to all. Another evidence may be found in the new organization of the peach trade, by which the managers have heretofore so largely profited. Instead of shutting out the peaches of all the rest of the State, for the benefit of their own orchards, by demands for freight equivalent to taxes of twenty, or forty, dollars per acre, they now find themselves compelled to carry them at eight cents per ton per mile, although even that is equivalent to ten dollars an acre, and is at least double what they would be carried for under a system of free competition.

Thus far the system has been managed by means of bribery and corruption on an immense scale, but

each step in the course of improvement now adopted tends to diminish largely the means, and the power, of corruption.

No merchant will now pay more than the legal toll upon his merchandise, which is 32 cents per 100 pounds. The excess last year, supposing the average charge to have been 50 cents, must have been almost $150,000—but even at an average of 45 cts., it must have been above $100,000.

The new three dollar line, and the facility now afforded for travelling with way tickets for $2 75, will reduce the receipts of the Trenton railroad, the property of the managers, at least $100,000.

The necessity that is now imposed for pursuing a new course with the earnings of the numerous steamboats employed in the transportation of merchandise and the towage of coal, will make another and larger reduction in the corruption fund.

Again: the competition that will now arise in the sale of peaches, will largely reduce the profits derived from this source by the managers, who are understood to have made very large preparations for the present season. Judging from the tolls paid at Hightstown and the Sand Hills, the quantity sent by them to the northern markets, must have been 60 or 70 thousand baskets, and a reduction of fifty cents, resulting from the facility now to be enjoyed by other people, of reaching those markets with their peaches in company with those raised by the managers, is not improbable. Here would be a loss of thirty or forty thousand dollars.

While the power of *corruption* is thus being reduced, the power of *intimidation* is likely also to be diminished. The quantity of merchandise sent by canal and railroad last year, at illegal rates, must have exceeded 50,000 tons. Each receipt for that merchandise subjects the managers to a penalty of $100. Admitting each to have covered even a ton, we should have 50,000 penalties, amounting to *five millions*. If the average quantity covered by a receipt was half a ton, and it is probable that it did not even reach a quarter, the amount of penalties to which they are liable *is at least ten millions*. Add to this the overcharges of six years, amounting probably to $600,000, and the costs of suit, and you will obtain an amount that is fearful. It is obvious that men with such liabilities hanging over them are not much to be feared, and as much of their power is based upon fear, that power must be greatly diminished.

Seeing all these things, it is obvious that the time has come when a vigorous effort should be made to throw off the burden that has been imposed upon New Jersey, and upon the Union, for the benefit of these managers, and equally obvious that such an effort would be successful. To produce it, nothing is necessary but that the press of New York and Philadelphia should be opened, and that may easily be done.

It *should* be done, for of all the questions before the people of those cities, there is none more important to their interests than that which relates to the advantages or disadvantages likely to result from the removal of the existing restrictions on their trade. There are some persons in Philadelphia, who think that city would be injured by a reduction of fare, and an increase of the facilities of intercourse. If such really be the fact, it is obvious that *an increase of price*, and *a diminution in the facilities* of intercourse, would be advantageous. It is possible that they are right, and therefore it is that I would wish to see the press of both cities opened to the discussion of the question, whether the price should be raised to five dollars, or reduced to one and a half dollars—whether the time should be reduced to three hours, or increased to seven or eight—whether the present poor engines should be replaced by those which are better or worse—whether it would be better to have such as break down *twice in a fortnight*, or twice in a week—to have slow steamboats or fast ones—to have ferry boats that should carry men and women, and sheep, and hogs, and jackasses, together, or separately—to have safe bridges, or unsafe ones, etc., etc., etc. The question having been once fairly discussed, if it should be found that the weight of argument was in favor of worse roads, poorer engines, more dilapidated bridges, longer time, and higher prices, than at present, we might safely assume judging from the past, that the company would most readily gratify the public desire. If, on the contrary, it should be proved that the general view was in favor of better roads, better engines, safer bridges, shorter time, and lower prices, we might as safely assume that the company would not grant them, and that the two cities would be compelled to make an effort, and a decided one, to replace their present hard and insolent task-masters by two or three good servants.

The process of opening the press is a very simple one. Let ten respectable merchants sign their names to a paper, pledging themselves neither to subscribe for, nor advertise in, any newspaper that will not permit the use of its columns for a temperate discussion of the advantages and disadvantages of the existing system, and the work will be done. Every merchant, every manufacturer, every grocer, every shopkeeper, and every property holder, will gladly unite in the measure, and the list will swell to thousands. Every man would desire to understand the question, and to have the privilege of deciding upon it for himself.

To the newspaper editors such a measure would be in the highest degree acceptable. All of them would desire to feel perfect freedom to do what they know to be right. There is not one of them that does not know that the advertising of half a dozen independent boats running up the river, and three or four companies running lines through to New York, and all courting business by aid of low prices, instead of driving it from them by high ones, would be six times more valuable than the dull and lifeless business of a monopoly: not one of them that does not know that if the number of persons passing through the city were doubled, or trebled, he would sell more papers, and have more advertisements—and that therefore their interest lies on the side of anti-monopoly. All of them would gladly open their columns, if they felt they could do so without loss, and all of them would unite in thanking the ten men who should first put their hands to such a paper.

Let it, then, be done. Let such a paper be prepared, and let it be well signed. The press will then be opened to the discussion, and the people of New Jersey, extensively readers of city papers, will be enabled to understand the question. They will then be enabled to see that they are the most heavily taxed people of the Union: that they are the slaves of hard task-masters, who rule the State by bribery and corruption: and then they will be seen putting their own shoulders to the wheel, and asserting their right to make for themselves roads to market, by which they and their produce may reach that market without the necessity for paying three four or five times as much as is paid by the people of other States, less advantageously situated than themselves. Let the merchants of both cities remember that Hercules helps him that helps himself.

A Citizen of Burlington.

Ohio and Indianapolis Railroad.

By a letter from a gentleman in Indiana, we learn that a very liberal charter has been granted for a railroad from Jeffersonville, in Clarke county, opposite Louisville, Ky., in the direction of Indianapolis; and the preliminary surveys have been made as far as Columbus, in Bartholomew county, where it will connect with the Madison and Indianapolis road.—The engineers are now engaged in making the estimates, with the view of putting it under contract this fall.

The writer says, "by our charter we are authorised to construct a railroad from Jeffersonville to any part of the State, and as many branches as the company may deem necessary." With such a charter, it seems to us that it would have been better to have kept more westerly, and have avoided a junction with the Madison and Indianapolis road—as there is ample space, of fertile country, between Jeffersonville and Chicago, from which to draw a rich business to a railroad, and thus avoid a rivalry, as will very likely arise by a junction with the road now constructed from Madison to Indianapolis.

Low Railroad Fare.

Speaking of the practical results of low fares on the railroads of that State, the Charleston Evening News remarks:

"The great numbers which have visited our city from the interior of Georgia and South Carolina, within the few days which have elapsed since the reduction of the railroad charges for travel, afford complete proof and illustration of the truth of these remarks. The reduced price of travel has crowded our hotels, filled our shops with retail purchasers, extended the sales of wholesale merchants, while it has correspondingly increased the revenue of the road. Why then should not this policy be continued? enlarging the circle of travel by the temptation of cheapness, and bringing the town and country into more intimate relations of business, of intelligent intercourse and social communication."

The policy indicated by the News is the true one for Charleston, and its tributary roads, to pursue, as will be found out one of these days.

New York and Erie Railroad.

We recently published the address of the directors of this company to its stockholders, setting forth its present condition and future prospects. There appears still to be, as there has long been, a disposition to obstruct the progress of this noble work, by the circulation of reports destitute of truth, thus depressing the stock, and impairing its ability to obtain the means for prosecuting it to an early completion. It is very true, as remarked by Mr. Loder, the president, "it would appear, from the low price at which some of the stock of this company has been recently sold, that the stock bonus of $3,000,000 has been entirely forgotten, or overlooked." And more especially is it surprising to us that the stock should be depressed, when, in addition to this bonus of *three millions*, the company pay *six per cent.* interest upon the amount paid upon the late subscription of $3,000,000, which makes it an investment—with fair and immediate returns—and which ought, at least, to command par. There is, however, a time coming—and not far distant—when many of those who now blow upon the stock, will find their error, and regret that they had not, when they might have done so to advantage, invested largely in "New York and Erie railroad." Let them complete, and open the road to *Elmira*, as they will in twelve months, and *then* we shall see a different aspect—then we shall begin to appreciate the work; but not until it is completed to lake Erie will it be *fully* ap-

preciated. Then with *one hundred and fifty* locomotives at work, it will make itself better known, and properly appreciated.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 1st inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company	8,244 14.	116,761 06
By Room Run	3,789 18.	60,667 16
By Hazleton	3,234 00.	47,229 00
By Beaver Meadow	3,175 00.	39,730 14
By Spring Mountain	2,741 08.	37,459 03
By Buck Mountain	1,252 04.	32,781 11
By Cranberry Mines	1,187 00.	5,568 00
White Haven	27 10.	3,113 04
Total	23,651 14.	343,303 14

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 3d inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	11,256 06
" Pottsville	4,610 05
" Port Carbon	9,279 02
" Port Clinton	3,548 08
Total this week	28,694 01
Total this year	735,618 09

The amount of coal brought to market by the Schuylkill canal during the week ending the 3d inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	8,848 11
" Schuylkill Haven	4,099 09
" Port Clinton	000 00
Total this week	12,948 04
Total this year	217,173 06

Recapitulation.—Total Shipments this Season.

By Lehigh companies	343,303 14
By Reading railroad	735,618 09
By Schuylkill canal	217,173 06
Total	1,491,024 09

Camden and Amboy Railroad.

Its Privileges and its Abuses.

In accordance with our promise, we published in our last number, the Address of the Camden and Amboy Railroad and Delaware and Raritan Canal Company, to the People of New Jersey, without comment, that those to whom it is addressed, and who feel any interest in the matter, may be able to understand the position and *assumptions* of these powerful companies. We not only gave it entire, without comment of our own, but also excluded a communication from a correspondent, on the subject, that it might have all the influence, upon those to whom it was addressed, which its *fathers* desired it *should* have. We did not even *allude* to its comments upon the "Press," because we deemed them *eminently* just towards *many* presses, not only in *New Jersey*, but also in the *two large cities* at the two ends of the road—not, however, in relation to those *few* which have spoken out, in this matter, within the last few months, to which *they* allude—as we *desire* and *intend*—if we have any knowledge of our own motives of action—to deal justly towards the company, and the business community, in what we may write, say, or do on the subject.

We shall take an early opportunity to review the address at length, which absence from home, and private affairs, at this time, prevent; but, in order to show how it is viewed by others, who are so *un*fortunate as to be connected with the "Press—which ought ever to guard, with vigilance, and fidelity, the rights of personal liberty, and private property," but which is represented as having been "*surrendered* to those *sinister influences*," and of "*lending* itself to *purposes* of *falsehood* and *detraction*"—we give the following remarks of the New York "*Dry Goods Reporter*," of last week. The editor says:

The directors of the Delaware and Raritan canal and Camden and Amboy railroad companies, finding, that notwithstanding the silence of the subsidized presses of New Jersey, the public mind has been thoroughly aroused to see the enormous extortions of the monopoly, have felt constrained to attempt a reply and vindication of themselves in pamphlet of thirty pages, addressed to the people of New Jersey. It bears date June, 1848.

The directors say, "the charges which have been made by newspaper writers against the joint companies may be entitled to some notice, not out of respect to those who *write*, but with regard to the public who *read* them, and who, having no opportunity to judge of their truth or falsehood, are liable to be innocently misled."

The very exalted contempt for "those who write," which the directors here profess, would carry more force with the public were it not a well known fact that it has always been the settled policy of the companies to show great respect and deference to writers, carrying matters so far as to grant readily the freedom of their road to editors and others wielding a ready pen. And yet it is not strange that these directors should entertain contempt for a class of men who have been so easily and cheaply bought to keep silence as the New Jersey press, when a great and oppressive monopoly was gnawing the vitals of the common prosperity.

We doubt if any other company of the kind in this country ever took so much pains to attach to their interest editors, lawyers, legislators, as the Camden and Amboy company. Scarcely a man who is in a position to enlighten the public mind, or who could be presumed to be inclined to expose the monopoly, but has been complimented with a free ticket. Now when it is known that something like six hundred persons travel without charge on the Amboy company's roads, tho' we may not be surprised at the company's secret contempt for their subsidizing allies, it was not to be expected that they would proclaim that contempt for a class of men so necessary and useful to them.

In view of the fact just referred to, of the subsidizing of the press of New Jersey by by the company, there are few readers of their pamphlet who will not smile at the cool impudence of the directors when they say: "The press, too, which ought ever to guard with vigilance and fidelity, the rights of personal liberty and private property—rights, without which society could not exist, and which constitute the vital principle of individual and social progress, is often surrendered to those sinister influences, and lending it self to purposes of falsehood and detraction, forgets its mission, and obscures or banishes from the community, the light it is its proper office to disseminate." We cannot well refrain from asking these gentlemen, who seem to understand the true mission of the press, and who profess to deplore its perversion, why it is, that through the length and breadth of New Jersey, not a press (with one exception, viz: the Burlington Gazette,) can be found willing to canvass the controversy *pro* and *con.*, between the mercantile and travelling public and the Camden and Amboy company? Why does the Jersey press "forget its mission, and obscure or banish from the community the light it is its proper office to disseminate"?

The directors, in the pamphlet before us, complain bitterly and piteously of the hard and unkind treatment they are receiving in return for all their "patriotic," "wise," and "philanthropic," enterprise in constructing their great works, the canal and railroad across New Jersey. They represent the dissatisfaction with them as proceeding from men "who, without industry or enterprise themselves, are ingenious in contriving how to live upon the industry and enterprise of others:" as persons who, "having nothing of their own to appropriate, are the busiest of all people in appropriating what belongs to their neighbors. In short, the company has met with nothing but ingratitude and abuse for the most generous and patriotic efforts, and all because a set of unprincipled agitators for speculating purposes, have misled and deceived the public mind!

Now, what are the facts? The company, without any remarkable sagacity, foresaw years ago that the great thoroughfare between New York and Philadelphia offered tempting advantages for a railroad, and with the expectation of making money, they undertook to build it, after securing a charter conferring extraordinary and exclusive advantages. The work completed and in operation, the public find themselves not accommodated as they had a right to expect, and as they are accommodated on other routes.—Complaints are made by several classes, that is, by the travelling public, by the mercantile classes requiring transportation facilities, by the people of the state wishing a market for their produce, and by all classes that desire free competition in road making, and who justly deny the right of any company to monopolise the right of way through the State.

We presume it may be held without offence and without argument, that roads are made for the people, and not the people for roads; and if so, people may speak when not suited, and complain when ill-used. They are not even obliged to inquire how much wisdom, patriotism or philanthropy were concerned in originating an enterprise, if its practical working is oppressive or inefficient.

It is generally found, too, that whenever a road or other public convenience does really confer an advantage at a reasonable price, the public are not slow to discover and acknowledge it. They are not apt to quarrel with their own bread and butter, to use a homely phrase. And the simple fact that for years past, one long, loud and continued complaint against the New Jersey road has been heard from all who have had any business with it, is strong presumptive evidence that there is

something worthy of condemnation. With most of the other lines of travel, both railroad and steamboat, the public are not only satisfied, but they regard them with sentiments of marked favor and high commendation. That it is otherwise with every man who travels on the New Jersey route, is not to be attributed to prejudice or "agitation," but to the more substantial reason that it is in the hands of a grinding monopoly, who give as little as possible to the traveller, and take all they can get.

The directors in their pamphlet claim that the public are bound to be satisfied with the Camden and Ambboy railroad company, because they have brought New York and Philadelphia "within the distance of ninety miles of each other," and "enabled the traveller to pass between the two great cities in four and a half hours, instead of twelve, or eighteen, and with infinitely greater comfort," than formerly. The cost they say, is r duced fifty per cent., and the comfort and safety are worth fifty per cent. more, Surely the public ought to be satisfied!

But we beg leave to suggest that this is not the method of estimating our obligations to the company. Common sense people will inquire not how its facilities for travel compare with what was fifty years ago, but how they compare with what other companies at the present day afford to their patrons.

This is the true question, and the public complaint against the Camden and Amboy company is not that they do not run faster and cheaper than the old Jersey wagon of the last century, but that they hold the exclusive right to the route and charge high prices for inferior service and accommodation in comparison with other companies.

We consider the appeal of the New Jersey company, now before us, as a challenge to those who complain, and we shall in a future number inquire into the particular grounds upon which the public dissatisfaction rests.

As indicitave of the encouragements which "those who write" have to discuss the question at issue between the public and the company, we re-publish the following from the Miner's Journal.

"*Camden and Amboy Railroad.—Power of the Press.*—Most of our readers have been aware that, while compelled to pay the enormous fare of four dollars, or four cents and a half a mile, for travelling from Philadelphia to New York, that company carried in the *same train*, way passengers at little more than half that price. Most of them would, no doubt, gladly have availed themselves of such an opportunity for travelling at moderate cost, had it not been fully understood that the company's agents refused to sell way tickets to *through passengers*, and that they were accustomed to eject forcibly from the cars all such as refused to comply with their exorbitant demands. All of them will, we doubt not, be glad to be informed that "a change has come over the face of the company's dream," and that there has been a total alteration of the system. In the last number of the American Railroad Journal, it is stated that while the conductors are instrueted to continue to demand full price, and to get it if possible, they are also instructed to take way price, if full price cannot be obtained! The editor informs his readers that, having been advised of the change, he had himself tested the matter, and had proved the correctness of his information—and further, he returns thanks to the conductor for the politeness manifested to him under such circumstances. Such being the case, it seems to have become optional with passengers to pay three times, and pay only $2 75, or pay once, and pay $4, and we would therefore recommend to our coal dealing friends, whose business calls them so frequently to New York, to pursue the former course. The change having been thus made public, it cannot be doubted that all travellers will prefer the cheap three ticket system, to the dear through one, and that thus the regular charge will speedily be settled down to that which is as yet the irregular one.

"We regard this improvement in the company's system as a remarkable evidence of the *power of the press.* It is due to a very few months agitation of the question—and it cannot be doubted that, with a little more agitation, this powerful company, and the State of N. Jersey itself, will be brought to terms, and the monopoly will be abolished, after which the rate of fare cannot possibly exceed $2 50."

Camden and Amboy Railroad.

We have assumed the ground that this company have abused their chartered privileges—enormous, even, as they are—and to give our readers the grounds for our opinions, and reasons for the decided course taken by us in relation to the subject, we have given, in a previous number, copious extracts from their charters, and subsequent laws in relation to them, and now we give a decision by the Supreme Court of New Jersey, in relation to one instance of overcharging for transportation.

If this decision of the Supreme Court shall be sustained—and we cannot see how it can be otherwise—by the Court of Errors, to which the company appealed, there will be many more suits of a similar character, as we understand that the merchants, both in Philadelphia and New York, are looking up and arranging their bills of freight on which they have been over-charged.

We copy the following decision from the Trenton Daily News, of July 20th. It is *truly* an

IMPORTANT DECISION.

Supreme Court, January Term, 1848.

The Camden and Amboy Railroad and Transportation company, *vs.* Peter Briggs.	R. S. Field and S. G. Potts for plaintiff, Wm. Halstead and Vroom for def.

Nevious, Justice.—This action was brought by the defendant in certiorari against the plaintiff, to recover a penalty of $100, under the act to prevent the taking of unlawful toll or fare on canals and railroads, for an alleged violation of law in charging more than they were authorised to charge for the transportation of certain merchandise, from the city of New York to the city of Trenton, by way of South Amboy and Bordentown.

The facts, as agreed upon by the counsel of the respective parties, are these: "On the trial before the justice, the plaintiff below proved that the defendant, on the 29th of January, 1846, charged Briggs & Bacon, partners, 96 cents for one box, of the weight of 240 pounds, for the transportation of the same from New York, by way of the Camden and Amboy railroad, to Trenton; that the same was transported by the steamboat of the company from New York to South Amboy, a distance of 30 miles, thence in the cars of the company over the company's railroad to Bordentown, a distance of 35 miles, thence over the company's railroad to Trenton, a distance of 6 miles—the whole distance being 71 miles—and that the said transportation was done by and for the benefit of the said company. The bill was paid by the plaintiff to the agent of the company." The Justice gave judgment for the plaintiff below, for the penalty of $100, with costs. It is agreed by the parties, that if upon the above state of facts, the plaintiff below was entitled to recover, that then the judgment be affirmed, otherwise that it be reversed.

The only question for the consideration and decision of this court is, whether the charge made by the company is greater than the law authorised them to make. The company do not put themselves upon the ground that the charge was made by accident or mistake, or from any miscalculation, but they claim that they had the lawful right to make the charge which they did make. This suit is brought under the act to prevent the taking of unlawful toll or fare on canals and railroads, passed the 12th March, 1839, Revised Stat. 601. This statute imposed a penalty of $100 on any incorporated company in this State (having by law a right to take) for taking, under any pretence whatever, more than the charge, toll, rates or fare allowed by law.

By the 16th section of the act, incorporating the Camden and Amboy railroad and transportation company, they are authorised to demand and receive tolls for the transportation *of every species of property whatsoever thereon*, as they shall think reasonable and proper, provided that they shall not charge more than at the rate of eight cents per ton per mile, for the transportation *of every species of property.* If this power to regulate and charge reasonable toll, with its limitation, extends to the whole distance between New York and Trenton, to wit, 71 miles, then the company have, in the case before us, charged more than by law they were authorised to charge, and have subjected themselves to the penalty under the act of 1839. But the company contend that this section of their charter, limiting the rate of toll to eight cents per ton per mile for transportation, extends only to the transportation on their railroad, which terminates at South Amboy, and that they are not restricted in their charges for transportation by water between South Amboy and New York, or between Bordentown and Trenton, on the Trenton road, and as the charge complained of was a general charge, for the whole distance between New York and Trenton, without specifying what proportion was for the water transportation, and what for the transportation on the Trenton

road, it is not apparent that they have charged more than by their charter they were authorised to do, and that in the absence of proof the legal presumption is, that the excess of their charge over eight cents per mile, was for that part of the distance where they are unrestricted in their rate of charge. Such is the argument of the company, and this presents the question whether their construction of their charter can be sustained. The plaintiffs were incorporated by act of legislature, on the 4th of February, 1830, as a railroad and transportation company, and by their charter were invested "with all powers necessary to perfect an expeditious and complete line of communication from Philadelphia to New York," and it was by their charter made their duty "to provide suitable steam or other vessels at either extremity of their road, for the transportation of passengers and produce from city to city, so that no delay should occur for want thereof." The 16th section then, before alluded to, gives to the company the right to demand and receive reasonable tolls for the transportation of persons and *every* species of property *whatsoever thereon*—provided that for the latter, such tolls shall not exceed the rate eight cents per ton per mile. The provisions of this section, taken in connection with the general object of the incorporation, and the whole scope of the charter, are by no means ambiguous—the only difficulty (if any there be) in the construction of this section, arises from the word "*thereon*," which the company construe as applicable only to their road, and not to the transportation from South Amboy to New York in their steam or other vessels. But if this construction is right, then the company have no right or power, by virtue of any *express* provision in their charter, to regulate or to demand and receive reasonable tolls for transporting persons and property in their steam or other vessels. The legislature surely never intended (after requiring the company to complete the whole line of communication between city and city, by means of steam or other vessels) to limit their rights to demand reasonable tolls, on a part *only* of that line—and if the right to demand and receive tolls extends by their charter to the whole distance between city and city, the limitation to that right must be coextensive with the right itself. The word thereon cannot therefore, by any fair or legal construction, be confined in its application to the *road* of the company, but exsends and applies to the whole line of communication, between city and city, which the company by their charter were authorised and required to perfect; any other construction would defeat the whole object of the limitation. For if the company have discretionary powers to charge what they please for the transportation of persons and property, between the extremities of their road and the two cities, it would be idle to limit their charges upon their road for the transportation of such persons and property as may be carried by them from city to city. In the construction of a statute all parts of it are to be taken into consideration, and words are to be so construed (if they will bear it according to the rules of law) as to carry out the manifest intention of the legislature, and the object of the statute. Upon those rules, I think the word thereon must be esteemed to apply to the whole line of connection completed by the company, between the cities of Philadelphia and New York, and that the company have no right, under their charter, to charge a higher rate for the transportation of property than eight cents per ton per mile, whether carried in their boats or in their cars.

It is further insisted by the company, that this limitation as to the rate of toll does not extend to the Trenton road, but that they are at liberty to make such charges for the transportation of property on that road as they may see fit, and that therefore the judgment below must be reversed. I cannot find the ground for such an interpretation of the law. By the act of the 15th March, 1837, the united Delaware and Raritan canal, and Camden and Amboy railroad and transportation companies were authorised to make this Trenton road, and by the 2d section of the law, they were declared subject to all "the provisions, conditions, liabilities, limitations and restrictions ts which they were then subject, "under their several acts of incorporation," if I am right in my construction of the 16th section of the charter of the railroad company.

It will follow that the limitation in that section applies, and is in express terms extended by the act of 1837 to the Trenton road. I think the judgment of the Justice below should be affirmed with costs.

Railroads in Virginia, & their Connections.

We have received a copy of a letter, written by Lieut. M. F. Maury, U. S. N., to Capt. Dimmock, in relation to the Lynchburg and Tennessee railroad, and its ultimate connections. In this letter the writer assumes that *Norfolk* is—not only geographically, but also, for various other reasons, such as capacity of *harbor*, *climate*, and the natural *fertility* of surround-country, etc.—the proper point for "the *commercial emporium of these United States*." He says, "with one of the best harbors in the world, leading up to its wharves, it is more easy of ingress and egress than any seaport town on the whole Atlantic coast." He says, there "is an immense, rich and fertile country between the Baltimore and Ohio railroad, at Wheeling, where it meets the Ohio river," and the South Carolina and Georgia railroads, at Chattanooga, where they cross the Tennessee river, and the mountain, and that "Richmond and Norfolk is its nearest, best, and most natural thoroughfare to the ocean."

By refering to the map, it will be found that the distance from Wheeling to Chattanooga, by a direct line, is over four hundred miles—or nearly as far as from Norfolk to Cincinnati, and farther than from Albany to Cleveland—between which points there is at present *no railroad line* across the mountain *defined*, and in course of construction. There are, however, between these points, *two* important and feasible routes for crossing the mountains, and reaching the fertile valleys of the *western* and *south-western States*; both of which would find an outlet at Norfolk, shorter and better than at any other point—and it is in relation to one of these routes, the Lynchburg and Tennessee, or more southerly route of the two, that Mr. Maury gives his views, which we insert at length in this number of the Journal.

We are truly obliged to the friend who sent us a copy of the letter at this early period, as we are always gratified to give publicity to the views of eminent and practical men, on all the great improvements of the age, but *more especially* in relation to important lines of railroad, to which we feel that we have—*almost a right to*—amounting certainly to a *very strong* claim of a *priority* of publication.

Lieut. Maury says that, "the only opportunity Virginia now has to recover herself, and make up for lost time, is in the *vigorous prosecution* of this railroad to the Tennessee line." Now we go to the fullest extent, with those who go farthest, in favor of a railroad through the valley of Virginia, in the direction of Tennessee, in order to open a communication with that fertile region. That was *one of the main* lines laid down by us, on a map, published in 1834; and though it has not, apparently, until recently, attracted much attention, it is, nevertheless, one of the *great* lines yet to be constructed, and we are gratified to find so able a pen as that of Mr. Maury enlisted in its advocacy—as it is a strong indication that the time is at hand for its commencement. We cannot, however, forget that there is *another* equally—and possibly, to Virginia *more*—important route from Lynchburg—we mean the route via Covington, or some other point, to the *Ohio river* at the mouth of Guyandotte—and thence to Cincinnati.

It will be found that, in a direct line from Lynchburg to Abingdon, on the route to Tennessee, is very nearly as far as from Lynchburg to the Ohio, at Guyandotte. The distance will not vary *forty* miles by an air line, and when you get to Guyandotte, you have the navigation of the Ohio, and *all the western rivers*, to connect with; but when at Abingdon, you have still to construct 350 to 400 miles of railroad to reach Nashville direct, or 150 miles to reach Knoxville, there to connect with the *Hiwasse road*, and by that with the Georgia and the Nashville railroads.

We do not raise this as an objection to the early construction of the Lynchburg and Tennessee line—by no means—but merely to keep in view an *equally* important line, in favor of which we have battled in years gone by, but which we must *not now* forget, for any *new* project, however feasible it may appear.

The distance from *Fish creek*—the point where the Baltimore and Ohio railroad will probably first *approach* the Ohio river—to Guyandotte, is about equal to that from Guyandotte to Abingdon—or say to *Blountsville*, just over the line in Tennessee—or, about 125 miles in an air line—which gives each line of road a broad space of country from which to draw its business, even if it should be deemed advisable to make a common trunk line from Lynchburg, to, or near, Christiansburg in Montgomery county—and from thence diverge one line to Abingdon, and Tennessee, and the other to Charleston and Gayandatte, on the Ohio river.

The remarks of Mr. Maury, in relation to the natural advantages, and position of Norfolk, as well as in relation to the depressed and unfortunate position of Virginia, are so truthful, and forcible, that they should be read by every Virginian, at least, and *arouse* him to action—*action*—ACTION, in the good cause of resusitating, and renovating, and advancing their old mother again to her natural relative position in the Union; and we *should like* to be able to do more than we anticipate in aid of the subject of Mr. Maury's letter—the opening of new arteries through Virginia to the western States, and of breathing *new life* into Norfolk, by which she may do justice to her favorable position, and her noble harbor.

We shall refer again to this subject soon, and connect this letter with another, by Mr. Maury, published in the National Intelligencer, in relation to a railroad to *California*.

NATIONAL OBSERVATORY,
Washington, June 20th, 1848.

My Dear Sir: I am much obliged for your favor of 17th inst.

You ask for a "few works of encouragement" with regard to the Lynchburg and Tennessee railroad. The Old Dominion, my dear sir, needs no encouragement--she only wants waking up. She has been sleeping over her great national advantages, while her more watchful neighbors, coveting her resources, have been drawing about her a net work of roads and canals to secure them.—They have been pressing upon her so closely, and drawing their links of internal improvement so tightly around her, that she begins now to feel them chafe. She is becoming restless. The healthy circulation of commerce does not flow as freely through her veins as it ought; it has been drawn off into other channels. She feels the oppression, but is hardly conscious of the cause, and it only remains for her sons fully to awaken her, and, like a giant as she is, she will arise refreshed from her slumbers to put forth energy.

That the good old State has slept long and soundly on her natural advantages and internal resources, is too true.

Geographically speaking, NORFOLK IS IN THE POSITION TO BE THE COMMERCIAL EMPORIUM OF THESE UNITED STATES. With one of the best harbors in the world leading up to its wharves, it is more easy of ingress and egress than any seaport town on the whole Atlantic coast. Only see: it is is at the mouth of the Chesapeake, which extends its navigable branches into Pennsylvania, Maryland and Virginia. The Chesapeake bay divides Maryland in twain. The Susquehannah is the natural outlet to market of the richest part of Pennsylvania. The Potomas, the Rappahaenock, the York and the James—all navigable rivers of great importance—drain lands as rich and as fruitful as ever received seeds from the hands of the sower, or yielded harvests to the labor of the husbandman. These streams take their rise in a back country, which embraces many millions of broad acres, and which is as rich for its mineral, as for its agricultural, resources.

But Norfolk has been disputing with Richmond and Petersburg, and they with her and with each other. With over jealous spirits, your mountain boys and tidewater people have been contending about paltry things, while the citizens of Baltimore and Maryland have been up and doing Baltimore has been wide awake: she has been true to herself, watching her interests with a sleepless eye. Her public spirit and energy, her canals and railroads, have made her what she is. Her "go ahead" principles have pushed her ahead of Norfolk, despite natural advantages on one hand, and physical obstacles on the other.

That Albany should surpass New York in wealth, that Natchez should out do New Orleans in the business of commerce, would not be more at variance with the laws of nature, as they regard the course of trade, than is the case which Baltimore presents with regard to Norfolk. The activity, the bustle and business which you see displayed on the wharves at Richmond, belong naturally to Norfolk. But by public spirit, energy and well directed enterprise, Baltimore has got them. Let her enjoy them, they were fairly earned.

The mouth of the Roanoke is shut up, and nearly the whole State of North Carolina is made by nature a tributary in commerce to Norfolk. And where is the internal improvement worth the name, that Norfolk has made? to secure that, or any other of her natural advantages? The Dismal Swamp canal!—On the other hand, see how Maryland and her people have embellished Baltimore.—While Richmond, and Petersburg and Norfolk have been bickering about a railroad from the Roanoke, Baltimore and her State, have been pushing a canal to the mountains, to bring down mineral wealth, and have been energetically threading their way by railroads to the Ohio. They mean to push on beyond that river, for more wealth, more resources of commercial prosperity and social happiness. Naturally and by rights, the connection and dependence between Richmond Petersburg and Norfolk, are as close and as intimate as the umbilical cord. The James river is not more dependent on the Chesapeake bay, nor the bay upon it, than they upon Norfolk and Norfolk upon them.

Baltimore is an inland city, the way to it from the sea passes by Norfolk, and where, in the history of the world, do we find among a commercial people a case parallel to this—a case where the more inland city, with a port more difficult of ingress and egress, with a smaller back country, with inferior commercial facilities and natural advantages, holds the commercial supremacy? During the winter the harbor of Baltimore is frozen up half the time, that of Norfolk never. The Patuxent is almost the only *natural* tributary to Baltimore.

You may find such cases in Mexico, in S. America, and a few other such countries;—but there, it should be borne in mind, dwell an indolent people. By law, the teamsters are forbid to grease the wheels of their drays, carts and wagons, lest they should fail to creak, and so not wake up the custom house officers.

All the Old Dominion wants now, completely to arouse her, is a little creaking of the *press*. A few home truths and loud calls from your men of business will make the "old critter" look about and bring her to her senses.

GOD bless the old State! I would not disparage her for the world; she gave me a birth place, and I owe her people much. My nearest of kin are among them, and where they are, there my heart is.

But while Maryland has been tapping her rich places, and binding this ancient and patriotic old commonwealth with a railroad in the north, Charleston and South Carolina have not been idle at the south. Ask the forwarding merchants of Richmond, what effect the Chattanooga railroad has had upon their business with western Virginia and eastern Tennessee.

Formerly, the people of Abington, Knoxville and the surrounding country, were supplied with drygoods haulded in wagons from Baltimore, and with groceries brought in like manner from Nashville. Then came the James river improvement, which gave this business to Richmond, via Lynchburg. But more recently, the Chattanooga and Charleston railroad has been opened, and, as I said, go down on the street and ask the forwarding merchants of Richmond now, how many goods they are sending out to that region.—They will tell you that the bhsiness has vanished. The internal improvements of other States have taken it away from Tennessee.

Between the Baltimore and Ohio, and the Chattanooga and Charleston railroads is an immense rich and fertile region of country. Richmond and Norfolk are its nearest, best and most natural thoroughfares to the ocean. Norfolk is the only town, with the name of seaport, from Baltimore to Charleston. And a railroad to the west, would make all western Virginia, southern Kentucky, north and western North Carolina—Buncombe, too—and east Tennessee, nay, even up to the very banks of the Mississippi, tributary to Lynchburg, to Richmond, Petersburg and Norfolk, each deriving advantage and profit, business and wealth, from the increase of benefits, and prosperity to the rest.

The only opportunity that Virginia now has to recover herself, and make up for lost time, is in the vigorous prosecution of this railroad to the Tennessee line. She will be met there by that steady and thrifty State, who will make haste to run back with it to the Mississippi. Look at the map, and you will see that such a line would divert that immense tide of "through" travel which now ebbs and flows up and down the Mississippi for and from Washington, Baltimore, Philadelphia, and the east. This travel is immense, and is growing daily. It is one of the chief sources of attraction with Baltimore in running a railroad to the Ohio. Besides increasing it, the road will, it is thought, intercept many passengers who now continue on, and reach Philadelphia through the Pennsylvania improvements.

Charleston aims at the same with her railroad. The idea of drawing the "through" travel from the Mississippi to the east, thro' Charleston, has weighed mightily with the friends of that improvement. But, as I said, look at the map, and you will see that the Lynchburg and Tennessee railroad would take all from both.

In the first place, Richmond is almost as near, as Charleston is, to Nashville. The difference by railroad would be only a four or five hours' travel. Where the railroad is to touch the Mississippi is a matter of future consideration. In the course of time, it would touch it at Memphis, and at one or two places higher up, and near the mouth of the Ohio, for instance. Suppose then, for the sake of

illustration, that the Baltimore, Chattanooga, and Lynchburg railroads be all finished; that the last two unite and terminate some where near the mouth of the Ohio, and that a passenger for Philadelphia, or the east, coming up or down the river, or by *the new route from China*, arrives at this place. What route will he take? Will he take the route up the Ohio, which is too often frozen or dried up, and run the risk of being blown up, or maimed of limb? (I am a cripple for life by attempting that river.) He will be two or three days longer even if the stage of water be good, than he would be by either of the other routes. If he take the Charleston route, he goes through a country where, if the passenger have children with him, he would not like to take them in summer. He will have a disagreeable passage of some sixteen hours by sea, and will only be in Wilmington, N. Carolina, when, by the Lynchburg route, he might be in Baltimore. Say then, which route would be the great thoroughfare between the east and the west, the Atlantic and the Pacific oceans? Certainly the most direct and the quickest: and that would be the Lynchburg route.

There is no railroad of equal length that has ever been projected in the United States, which would command as much "through" travel as this would. There are others which have more "way" travel. But what I mean to say is, that no railroad has ever offered better prospects than this, af a large amount of through travel.

If Virginia do not set about this work at once and in good earnest, it will be too late. The Chattanooga railroad will soon make it self felt in east Tennessee. The people will be getting up their little branch railroads, their turnpikes and slackwater improvements to it. Their interests will then be permantly in that direction, and they will permit no rivalry from this quarter.

In time—it may be ten, fifteen or twenty years, certainly not more—you will see a railroad from the Mississippi river to California in process of construction. It am told that it is practicable to bridge the Mississippi river 50 or 60 miles above the Ohio, at a place called the "Grand Tower," I think, where there are bluff banks on either side, and a high rock in the middle. Some of the most distinguished statesmen in the land are ready to advocate the building of this bridge and a railroad thence to California, and of then saying in "Uncle Sam's" name, to the States and the people of the States, "here is a free bridge leading to a magnificent railroad for the Pacific, get to it as best you may." Now it so happens that the "Grand Tower" is on a direct great circle line from Norfolk to California, as you will see by drawing a string tightly between the two places on a globe.

Norfolk may, and San Francisco will—one the best port on the Atlantic, the other the best port on the Pacific, and both as good as any in the world—be the termini of this great thoroughfare. Should not the "Mother of Statesmen," if she wish to preserve the glorious distinction, be in readiness to strike for the prize; the glory and the grandeur, and the wealth that are to flow to the State which shall own the eastern terminus of such a thoroughfare, are of themselves surely enough to tempt Virginia into the lists.

It is impossible to calculate the importance or the value, neither can one rightly estimate the effects and bearings, of such a work.—The world has never seen anything like unto it before, but never before has the world tempted the energy, skill and enterprise of man with such dazzling promises.

But travel from sea to sea, and from ocean to valley, is not the only inducement for the Lynchburg and Tennessee road. Much of the country through which it has to pass has locked up in it exceeding great riches. Lead iron, coal, gypsum and salt, the most valuable minerals that man can dig out of the bowels of the earth, abound by the wayside. The soil produces the finest of wheat, but the farmer is shut out from market.

Travelling through that country eighteen years ago, I stopped at the house of a very intelligent gentleman near Abington. He was lamenting his remoteness from market, and complaining that there seemed to be no prospect of ever getting an internal improvement to reach so far. Everything but money was plentiful throughout that entire region. Nothing but a few more of the "roots of evil" seemed wanting to leave the people without a desire. No one would buy even wheat, barley, oats, fatted calves, bullocks, he-goats, or rams, all had enough of these and to spare. And the way to market was this: to convert the surplus bread into surplus meat; to keep it on its legs; and to drive it off over mountain ranges as far as S. Carolina and Georgia, for a market.

It is by no means extravagant to say that, within 10 years after this road shall have been in operation, the price of the land within 50 miles on either side of it throughout that pent up region, will be enhanced two, if not three, fold over and above its present rate.

Railroads are like ocean steamers, they create commerce. You recollect when the Sirius and Great Western first arrived at N. York, every body said, "the packet ships are done for now." "They will be run off the waters and sold as whalers." But what has been the actual result? Why the packet ships have been increasing in numbers and size ever since. And so far from interfering with them, the steamers have increased their business, and have created a steam commerce, so to speak, for themselves. So, too, is it with railroads, with regard to travel and many articles of commerce.

There is no sectional interest of the State in this railroad. An improvement in the direction proposed is the only thing that can recover to Virginia those natural advantages that by some means or other have slipped through her hands. If she do not wake up now, it is better that she should sleep on.—Eastern and western Virginia, tidewater and mountain people, all have equally a stake in the hedge. They saem sometimes to forget this fact. Impress it upon them.

To see how Virginia has slept, consider what the New England States, New York, Pennsylvania and Maryland have been doing in the way of internal improvements. Theirs is an inhospitable climate. New York digs a canal, and it is frozen up for four or five months every year. Massachusetts makes a railroad, and it is banked up with snow.

Let us suppose that the spirit of internal improvement had never been rife in the land. That from Maine to Georgia, there was neither railroad, canal nor slackwater improvements. Suppose, moreover, that the people throughout this whole region were equally rich or poor, industrious, intelligent, enterprising and patriotic, and that they were all just now to commence with a wholesome system of internal improvements.

Now take the map and see how nature has dealt by these several sections. To which has she given most? and where does she show the best site for the city to be—the emporium of trade, wealth and grandeur on the Atlantic coast. Let us follow the man who is in search of the state and city with the greatest amount of natural advantages and resources.

Boston, he would say, has a good harbor, when it is not frozen, but as for back country, he continues, I find the granite hills of New England, and a soil that does not yield dry bread enough for its people. Boston then is certainly not to be the Athens of this republic.

Next he comes to New York: her natural resources are along the shores of the sound and the banks of the Hudson, a small stream in commarison, running, without a navigable tributary, between hills and valleys, through a narrow range of back country which, tho' more productive than that of New England, still does not yield enough wheat for home use. Conclusion: this, therefore, can never be the commercial emporium of these United States—the London of America.

He passes on to Philadelphia; it is situated at the head of a beautiful bay, rather difficult though of access to and from the ocean. It is at the junction of two streamlets; which, though they drain the best back country that I have seen yet, are not, he would say, navigable for more than a furlong. Besides it is too near the magnificent bay just to the south of it, ever to be more than a second rate place among the commercial cities of the Union.

So he might review Baltimore, and, after giving it at most the back country that is drained by the Susquehannah, he would pass on to Norfolk. And, with raptures, here, he would exclaim, is the place, where are to centre the commercial wealth, power and greatness of this vast Atlantic slope. Here, *exactly midway the Atlantic coast*, is the finest harbor, the largest rivers, the largest State, the widest and deepest back country, the best climate and the kindest soil. The renouned valley of the Genesee is but a truck patch to this region. A canal from the inland tributaries of the Chesapeake will bring the waters of lake Erie down to Norfolk, before N. York can touch it. The head waters of the Susquehannah are much nearer than those

of the Hudson to lake Erie. A railroad through Tennessee to the Mississippi with arms reaching north and south, will bring travel to Virginia, such as the world has not seen.

Nature has been niggardly to North Carolina in harbors for commerce. The best part of that state is naturally a tributary to Virginia; herefore, whenever the Old Dominion shall say the word, and with energy suit the action, the old North State will pass through her toll gates.

Virginia, geographically speaking, was in much better position than New York to command the lake trade. The Chesapeake bay affords the most ready outlet to a back country equal in extent to one third of the entire Atlantic slope. Norfolk is the doorway for all this trade, and therefore it is that I said *geographically* speaking, Norfolk is the commercial emporium of the United States. But enterprise on one hand, and on the other, local, sectional and State prejudices, with other causes which, for charity sake, I will not mention, have deprived the Old Dominion of such greatness, notwithstanding nature did so much for her. Take the map again, and see how little art and enterprise have done for Virginia. On the other hand, State policy and the public spirit of her citizens, the will to do and to pull together, have made New York what she is. Virginia may recover much by a railway to the Tennessess line. Take it these, and I'll pledge my State to meet you on the line and run quickly with it to the great valley of the west. But I give this pledge only in case the people of eastern and western, lower and upper, Virginia will lay aside all sectionalal jeasousies, and push on this work at once, and that too with a hearty good will, for, in sailor phrase, "sharp's the word, and quick's the motion," now.

Yours, truly, F. M. Maury.

Capt. Charles Dimmock,
Richmond, Va.

Vicksburg and Jackson Railroad.

In our number of 1st July, we copied an article from the Vicksburg Sentinel of the 16th May, stating that this railroad had been transfered to Mr. Jackson, who was represented as a citizen of England. We gave the statement as we found it, in an exchange paper; not receiving the Sentinal, we did not see a correction of the error made in a subsequent number of that paper, showing that Mr. Jackson was a citizen of the United States, and that in the war of 1812, he was a volunteer in Wilkin's company of Mississippi riflemen—and marched with that celebrated corps, to defend New Orleans from the British invasion in 1814-15, that upon his arrival in camp, Mr. Jackson was selected by Gen. Carroll as one of his military family, with whom he served till the close of the war.

While upon this subject, we should mention a fact, which ought not to have escaped our attention, viz: that upon receiving possession of the railroad, Mr. Jackson gave to the stockholders, or their agents, the privilege of redeeming it, upon paying to him the amount of his claim; and we now understand that the money necessary to effect this, has been advanced by the Girard bank, and the trustees of the bank of the United States, who will hold the road in trust for the stockholders, till its income shall reimburse the amount advanced.

A plan of compromise between the creditors and stockholders of the corporation, which had progressed nearly to completion, but was interrupted by the events above alluded to, is now again, as we understand, urged upon the consideration of the parties interested; if it succeed, it is believed that it will render this road a good *dividend paying* stock. We understand that the road from Jackson, eastward towards the Alabama line, is now in progress, and the commissioners expect to have about seven miles open for traffic by the 1st of December next.

From the following statement in the Vicksburg Sentinel, we learn that the managers have decided to try the effect of a reduction of charges on this road; and, though we are aware that the same course of management on this road, as is adopted on the eastern roads, will not, in *all* cases, produce precisely like results, yet we have not a doubt but that they will find the business, and the net profits, increased by a reduction of the rates of fare and freight—and we shall look for the result of this change with some interest.

The following is the article alluded to from the Sentinel; and we join the editor of that paper in his "hope that, under the new auspices, and the now certain extension of the road beyond Brandon, a new career of prosperity will be opened, for all within reach of its influences."

Reduction of Charges on the Vicksburg & Brandon Railroad.—We are gratified to be able to state that the managers of our railroad have completed an arrangement for reducing all their charges for freight and passengers after the 1st of August. The reductions average generally about one third. As for instance, at present the charge for passengers to or from Jackson is $3; by the new arrangement it will be $2. Present charge to or from Clinton is $2 25; the new will be $1 50. Present charge from Bolton's $1 75, new $1 20. The rates for cotton will compare as follows: present charge from Jackson per bale 76 cts.; the new will be 70 cts. Present charge from Clinton 81 cents; the new will be 65 cents. Present charge from Bolton's is 75 cents; the new will be 60 cts., etc. All other freight is reduced in much the same ratio.

Tee managers avow their intention still further to reduce all the charges, if it should turn out that the business of the road under the present reduction shall justify it. On this point we have no doubt; and feel confident that the public will be found to respond as expected to the contemplated movement.

While upon this subject we will mention a fact much to the credit of the vigilant gentlemen who have been superintendants and engineers of the road, and conductors of the trains. Since the opening of the road in 1839, now nearly 10 years ago, although the works were in many instances thought to be hastily made, and of inadequate materials, there has not been a single passenger seriously injured on the road, and through all changes and seasons, it has performed with few inconsiderable changes and interruptions, its regular trips for the public convenience.

We sincerely hope that under the new auspices, and the now certain extension of the road beyond Brandon, a new career of prosperity may be opened for all affected by its continuance.

Wabash and Erie Canal.

A.—*Description of the Wabash and Erie Canal, and the mechanical structures thereon, showing their condition on the 1st of July, 1847.*

Continued from page 505.

Road bridge 44, will last 2 years.

Culvert 103, of wood, 6 feet by 18 inches, submerged.

Culvert 104, for the mill race of saw mill at Rattlesnake, built of wood, 8 feet by 2 ft. The covering timber of this culvert cannot be submerged without backing on the saw mill wheel. It will require renewal in five or six years.

Road bridge 45 will last two years.

Culvert 105, over Rattlesnake creek, two arches, each 15 feet chord, built of timber.—The arches will last 4 or 5 years. The head walls will need some repairs within three years.

Culvert 106, of wood, 6 feet by 18 inches, submerged.

Lock 31, 8 feet lift, built upon the *wooden crib plan.* With some slight repairs may last 3 years. The lower gates need renewal in 1849. The upper gate is upon "*Englishs' patent plan,*" which is submerged.

Lock 32, 6 feet lift, built upon the *wooden crib plan*, with some repairs may last three years, gates renewed last year. This is the outlet lock connecting with the slackwater at the crossing of the Wabash.

Towing path and road bridge across the Wabash river, at the head of the slackwater. The superstructure is built upon "*Longs patent,*" weatherboarded and roofed, and is in all respects permanent. The spans are as follows: 3 spans, each 94 feet clear, 1 span, 105 feet clear, 1 span, 70 feet clear, and 1 span 43 feet clear, for a draw, in all 6 spans. The bridge rests upon 5 piers and two abutments, formed of durable masonry: the stone procured from the Georgetown quarry, and the workmanship good.

The next three miles of the canal are formed by the slackwater in the Wabash river, created by the feeder dam opposite Delphi, with a towing path constructed on the east bank.

Along the slackwater there are four small wooden culverts, 107, 108, 109 and 110, constructed under the towing path, all of which are submerged.

The next structure is the Wabash guard lock, constructed at the entrance of the canal where it leaves the slackwater. It is constructed of wood upon the crib plan—will need renewal in 1849: the gates will last 5 years, being new.

Just below the guard lock is road bridge 46, used also for changing the towing path from the north to the south side of the canal, will require rebuilding in two years.

Road bridge 47, crossing the canal where it occupies the Delphi bayou. This bridge is three times the common length. Will need rebuilding in two years.

Road bridge 48, at Bowles and Colten's warehouse, double length, will last one year.

Road bridge 49, at Delphi, will need rebuilding in 1848.

Lock 33, five feet lift, the walls of extra height to guard against the Wabash floods. Built of wood upon the crib plan, will last 3 years; gates will also last 3 years.

Wabash dam, 4, opposite Delphi, is 590 feet long and 12 feet high from low water.—It is constructed by means of timber crimbs, slopes of three to one on the upper and lower sides, filled with stone, the whole resting on rock bottom. The abutments are of timber; the north abutment must be rebuilt during the low water of 1848; and the south abutment during the low water of 1849. This dam answers the double purpose of forming a pool in which the canal crosses from the north to the south side of the Wabash, and also of furnishing the chief supply of water from this point to coal creek, a distance of over seventy miles. In order to pass forward so large a quantity of water, this dam will require raising permanently about one foot. The stone filling is washed out of a small portion of the crib on the lower side, and should be replaced. These improvements and repairs should be made during the low water of 1848.

The next structure is Deer creek dam, erected for the double purpose of a feeder and of forming a pool in which the canal crosses this stream; length 170 feet, height 10 feet from low water, formed of cribs filled with stone, resting on a foundation of brush and trees; abutments built of wood, and will require renewal in 1849. The dam may be considered a safe and durable structure; the pool of this dam forms the upper end of the Lafayette level, and the plan proposed of passing through this leval a greater quantity of water for the canal to Coal creek, involves the necessity of adding 15 or 18 inches permanently to its height. Bed of the creek at the dam is sand.

Towing path bridge across Deer creek, a simple wooden structure about 10 feet wide, uncoverd, resting on one stone pier in the strongest current, and three timber bents, the bridge is in good order, but the portion which is of timber will require rebuilding in 5 or 6 years.

Deer creek guard lock—built of timber, on the wooden crib plan, may last till 1850: gates will need rebuilding before the winter floods.

Culvert 111, over Shaker run, of wood—two spans, each 12 feet by 3 feet, submerged.

Guard lock at Kites, designed to guard against extreme floods in the Wabash when the river is admitted to flow in, built of wood—the cribs will last perhaps four years, gates two years To pass the enlarged quantity of water some additional sliding gates must be placed in the main gates during the ensuing winter.

Culvert 112, of wood, 9 feet by 18 inches, submerged.

Culvert 113, of wood, 6 feet by 28 inches, submerged.

Culvert 114, of wood, 9 feet by 18 inches, submerged.

Culvert 115, of wood, 9 feet by 18 inches, submerged.

Each of the last named four culverts is banded with iron, as security against the upward pressure in time of high floods, when the river is higher than the canal.

Road bridge 50, at Americus, will last one year.

Culvert 116, of wood, 6 feet by 18 inches, submerged.

The next structure is Sugar creek culvert, 117, a large wooden arch of 24 feet chord; the arch springing from the slate rock in good condition, will last five years, when it must be rebuilt of cut stone. Head walls may need some repairs within two or three years.

Just above Sugar creek a small wooden culvert was constructed for the passage of a mill race. The mill having been abandoned, the culvert may be dispensed with. It is therefore not numbered.

Culvert 118, over Buck creek, of timber, 4 spans, 12 feet by 3 feet, in good order, submerged.

Culvert 119, 2 spans, 10 feet by 18 inches, submerged.

Flood gates near Wild Cat, abutments of wood, not in good order; may last 2 years.

Wild Cat dam, erected for the purpose of a feeder, and also to raise a pool, in which the canal crosses this stream, 221 feet long, and 13 feet high from low water. The dam is formed by means of cribs filled with stone, resting on foundation of brush and trees—The bed of the creek is formed of sand and gravel. This dam is in good and safe condition; abutments of wood, and wtll require rebuilding, one in 1849, and one in 1850.

On each side of Wild Cat, a guard lock is constructed to protect the canal from the floods, built of wood upon the common crib plan. The guard lock on the north side of the creek is too low, the walls at the upper gates must be raised four feet during the present summer. One pair of the gates to be renewed this season, the other pair will last three years. On the lower end of this lock is a small bridge, on which the towing path is crossed, will last three years. The walls of the guard lock will need renewing within three years.

Guard lock on south side of the creek, constructed in the same manner as the other, was injured by the high floods of last winter, but since repaired, may last two years. Upper gates will last four years, lower gates will last two years.

Adjoining this lock a set of culverts are placed under the guard bank with sliding gates at the upper end, through which the feeder is passed, the culverts are submerged, the whole structure recently rebuilt, having been washed out by the great flood of last winter.

Towing path and road bridge across the Wild Cat, this structure was washed away by the floods of last winter. In May last a contract was made, by the State officers, for building a new bridge upon 'Long's patent,' of 160 feet clear span, resting on permanent stone abutments.—the total cost will be about $5,600, and must be paid for in the expenditures of 1847–8.

Culvert 120, of wood, 10 feet by 18 inch., submerged.

In the town of Lafayette, are several street bridges, on two of which, state or county roads are said to cross, these bridges, 52 and 53, should be rebuilt during the coming year.

Road bridge 51, used also for crossing the towing path from the south to the north side, must be rebuilt in 1848.

Culvert 121, below the paper mill, of wood, 2 spans, 8 feet by 18 inches, not submerged, to place the timber permanently under water will cost $20.

Culvert 122, near large pork house, 6 feet by 12 inches, not submerged, an expense of $10 will place it under water.

Guard lock for the protection of the Wea bluffs, the necessity for this lock will not much longer exist, and therefore it will not require renewal.

Culvert 123, for Durkees Run, of wood, 3 spans, 11 feet by 3 feet, not fully submerged, an expenditure of fifteen dollars required for this purpose.

Aqueduct 7, over Wea creek, 3 spans, 32 feet each, abutments and piers, as well as the trunk, constructed of timber. The foundation was undermined by the great flood of last winter, and the piers were settled as much as two feet. The trunk has been raised to the proper level and the foundation secured with brush and stone. Whether the work will stand in this condition, it is impossible to say, the timber will last 6 or 7 years, when the trunk must be renewed upon the present plan, and the abutments and piers rebuilt of stone.

Lock 34, 10 feet lift, is located just south of the Wea aqueduct. It is built of timber, upon the frame plan, the workmanship very imperfect, and wholly unsuitable for canal structures. Owing to the imperfect manner of its construction, this lock with its gates, will probably last but three or four years.

Just below the lock a feeder is introduced from the Wea, it is 25 chains long, constructed with 15 feet width at bottom, the banks of this feeder should be raised one foot throughout to keep out the floods.

Wea feeder dam is built upon a temporary plan, being formed wholly of brush and gravel, and will require a small annual expenditure to keep it at proper height, it is about 200 feet long, and raised 4½ feet above low water.

To pass through the long level from Wea to Attica, the large quantity of water required below, the upper end of this level must be kept at the height of five feet above bottom. To meet this requirement, one foot in height must be added to the Wea dam, and this expense, together with the raising of the feeder banks, must be incurred in 1848.

Culvert 124, of wood, 11 feet by 2½ feet, submerged.

Road bridge 54, at Granville, will last 7 years.

Road bridge 55, 2 miles below Granville. Of this bridge the embankments only are completed, the wood-work under contract at $250—which will be paid in the expenditures of 1848.

Culvert 125, of wood, 2 spans, 10 feet by 2 feet submerged.

Aqueduct 8, over Flint creek, 2 spans, 32

feet each, trunk of wood, resting on one pier, and two abutments, also built of timber, the workmanship imperfect, but the structure will last probably six years, when the whole must be rebuilt, the trunk with timber and the abutments and piers with stone.

Road bridge 56, may last 7 years.

Culvert 126, of wood, 2 spans, 10 by 2 ft., submerged.

Culvert 127, over Young's branch near Maysville, of timber, 4 spans, 10 feet by 3 ft., submerged.

The waters of Young's branch, are received into the canal by a small feeder 6 or 8 chains in length. The dam across the stream is 60 ft. long and 2 ft. high, built of timber.

Road bridge 57, for road leading to Independence, will last 5 or 6 years.

Culvert 128, over the stone quarry branch, of wood, 10 feet by 2½ feet, will require an expense of $10, to submerge it.

Culvert 129, in Attica, of wood, 2 spans, 18 feet by 2 feet, submerged.

In Attica there are 2 road bridges, 58 and 59, will last 5 or 6 years,

An agreement was made by the state officers, and not yet fulfilled, to erect a bridge in the upper part of Attica, in commutation of damages, the cost will be about $400.

Lock 35, 6-20ths feet lift, of timber, built upon the frame plan, this lock appears to be well built and in good condition, may last 6 or 7 years, the gates will last 3 years. The large horizontal braces were left out in building this lock, and must be immediately added,

Road bridge 60 for the Williamsport road, will last 6 years.

Culvert 130, of wood, 11 feet by 2 1-4 feet, submerged.

Road bridge 61, may last six years.

Aqueduct 9, over Shawney creek, one span of 80 feet clear; the trunk and superstructure are upon the same plan with aqueduct No. 1, over the St. Marys, to the particular description of which reference is here made. Abutments are of cut stone masonry, the whole work appears to have been well constructed, and may be considered permanent, excepting the trunk, which will need renewal once in 10 years; as a further exception to this remark, it should be stated that the chords on which the whole structure depends are deemed insufficient in strength, and I have advised that additional strength be given to it, by adding a strong iron chain or bar extending the whole length of the chord, and attaching to each foot the arch. The expense may be $300, and will be paid in the expenditures of 1848.

At the south end of this aqueduct, the Shawnee feeder is received. It is near one half mile in length, and 12 feet wide at the bottom.

Feeder dam across Shawnee creek, 80 feet long and 8 ft. high, built upon the usual crib plan, is in good condition, and may be considered a safe structure. The abutments are of timber, and may last 7 or 8 years.

Culvert 131, of wood, 11 feet by 2 1-4 feet, submerged.

Culvert 132, over Bear creek, this is a large cut stone arch of 30 feet chord, and being built of very soft sandstone, there may be some doubt of its durability. The stone are not affected by the weather. The workmanship appears to be good, and the culvert is at present in good condition.

Road bridge 63, may last six years.

Culvert 133, of wood, 11 feet by 2 1 4 feet, submerged.

Road bridge 64, will last six years.

Culvert 134, one half mile above Covington, of wood, 2 spans, 11 feet by 3 feet, submerged.

Floodgates near the same place, all of wood, will last six years.

Lock 36, 10 feet litt, built of timber, upon the frame plan, not well constructed, but with care and some repairs, will last 4 or 5 years, gates will last 3 years. This lock is in Covington.

In Covington there are two road bridges, 65 and 66, which may last 4 or 5 years.

Culvert 135, 3 spans, 10 feet by 3 ft., built of timber, and submerged.

Flood gates one and a half miles below Covington, of wood, will last six years.

Culvert 136, of wood, 11 feet by 2 1-2 feet, submerged.

Culvert 137, of wood, 11 feet by 2 1-4 feet, submerged.

Culvert 138 of wood, 11 feet by 2 1-4 ft., submerged.

Culvert 139, of wood, 11 feet by 2 1-4 ft., submerged.

Road bridge 67, one mile above Perrysville, will last 6 or 7 years.

Road bridge 68, for Perrysville road, of wood, will last 6 or 7 years.

Lock 37, 9 feet lift, just opposite Perrysville, built of timber upon the frame plan—workmanship exceeding bad, with occasional repairs, may last 3 or 4 years, gates will last 3 years.

Towing path bridge across the mouth of Perrysville side cut, not finished but in process of construction.

Road bridge 69, at head of "Swail," now in progress of construction, embankments finished and timber delivered.

Culvert 140, of wood, 6 feet by 18 inches, submerged.

Road bridge 70. This bridge is under contract, but not completed.

Road bridge 71, at Lodi, near the crossing of Coal creek, in good order, and will last 7 or 8 years.

The bridge last described is at the termination of the finished canal, and the commencement of the new contracts let on the 5th August, 1847.

St. Joseph Feeder.—This feeder is 6 miles and 34 chains in length, conducting the water of the St. Joseph river, into the summit level of the canal, from which it is drawn both east and west, supplying the canal to the Ohio reservoir in one direction, and to the forks of the Wabash in the other. In extremely dry seasons, full half the supply for the 12 miles next below the forks, is also drawn from the St. Joseph feeder.

The St. Joseph dam, by which the stream is turned into this feeder, is 230 feet long, and 16½ feet high, from low water. The foundation of the dam for the height of 5 feet from low water, is formed of brush and forest trees upon which is erected substantial cribs filled with stone. The whole work is upon the most permanent and secure plan, excepting that the abutments are built of timber. These are much decayed, and must be replaced during the low water of the present summer. The bed of the river where the dam is erected is composed of sand.

The guard lock at the head of the feeder is built of timber. The abutments at the lower end with the lower gates are in good condition, having been rebuilt last summer. The upper abutments and the upper gates are entirely decayed, and must be rebuilt before the fall floods,

Proceeding down the feeder, the next mechanical structure is culvert No. 1, over Beckett's run, a cut stone arch of 13½ feet chord. It is new and in excellent condition.

Culvert No. 2, is a timber arch of 9 feet chord. The upper portion of the arch has been exposed to the air, and must soon require rebuilding, if left in its present condition. To prevent this expense, I would recommend the building of a dam below, raising the water of the stream about 3 feet, by which the whole arch will be submerged and rendered permanent. This dam may cost 50 or 75 dollars.

Road bridge No. 1, is the next structure. It is near Rudisell's saw mill, will need rebuilding in 3 or 4 years.

Culvert No. 3, is a wooden arch of 8 feet chord. It cannot be submerged, and must require rebuilding within one or two years. It should be built of cut stone.

Culvert No. 4, a wooden arch of 6 feet chord, submerged.

Road bridge No. 2, at crossing of Lima road. This bridge is entirely decayed, and should be rebuilt next years.

The next structure is the Spy run aqueduct, 1 span of 28 feet. Trunk of wood resting on stone abutments. The whole work has just been rebuilt, and is in good condition, with the exception that the masonry, from the imperfection of the groating, is subject to leakage, thus rendering the work liable to breaches.

Road bridge No. 3, at the Goshen road, should be rebuilt next year.

Thence to the junction with the main line there are no mechanical structures.

Statement of Lockage on the Wabash and Erie Canal.

From the summit level at Fort Wayne east to the State line, (feet,) . .	20,50
From the summit level at Ft. Wayne west to Coal creek, (feet,) .	267,70
Total lockage, (feet,)	288,20

Average lockage per mile, 1·53 feet.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.

August 5, 1848—3m*

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
{ A. B. NOARIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

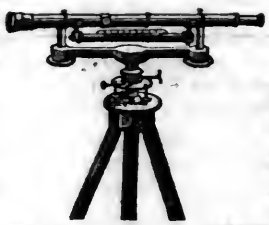
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

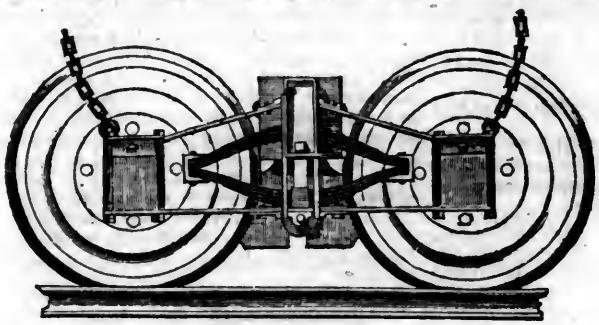
MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co.,
March 12, 1848. 11tf

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIber having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

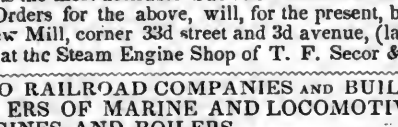
1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee. G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street, Philadelphia, Pa.

1y25

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE, 142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS,

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,

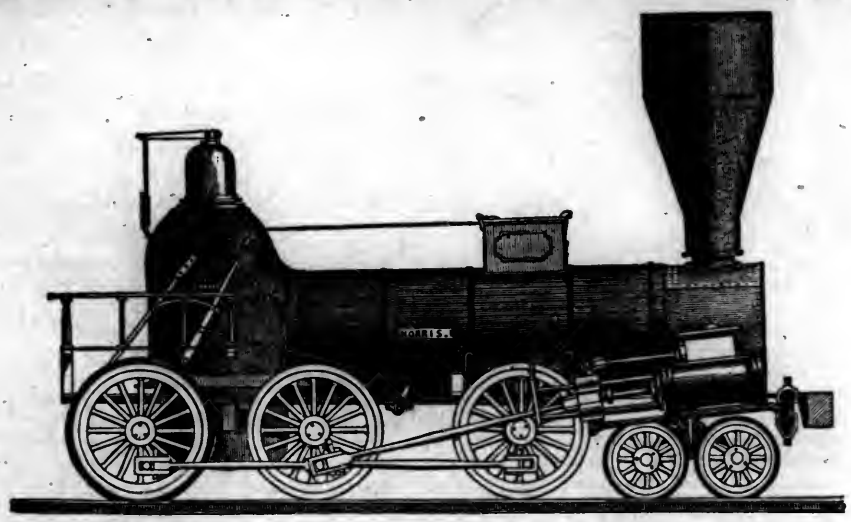
General Agent,

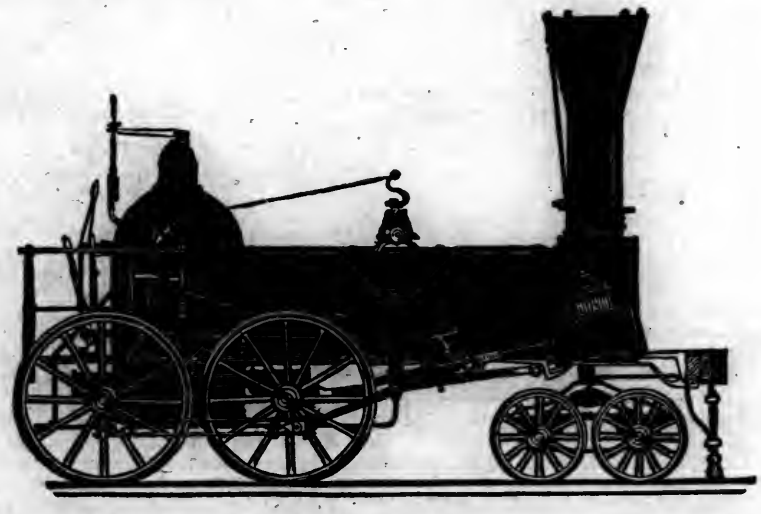
Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC Railroad.

—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.




SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.	6 P.M.
Going east.		**1st train.**	**2d train.**	**3d train.**
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after




Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.
Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.
Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.
Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.
White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.
Pleasantville, 8 15 a.m. and 5 15 p.m.
Newcastle, 8 a.m. and 5 p.m.
Mechanicsville, 7 48 a.m. and 4. 48 p.m.
Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.
Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.




Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

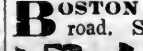
For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.
For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after




Monday, April 3, 1848, the Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pitusburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAIL-Road. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAIL-ROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

125 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WEST-ern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad.....	190
Macon to Atlanta—Macon and Western.....	101
Atlanta to Oothcaloga—Western and Atlaniic..	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....	0 20	pr. 100 lbs. 35
Crockery, per cubic foot.....	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....	1 25	1 50
Ploughs, (small,) and Wheelbarrows.....	0 80	1 05
Salt, per Liverpool Sack.....	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

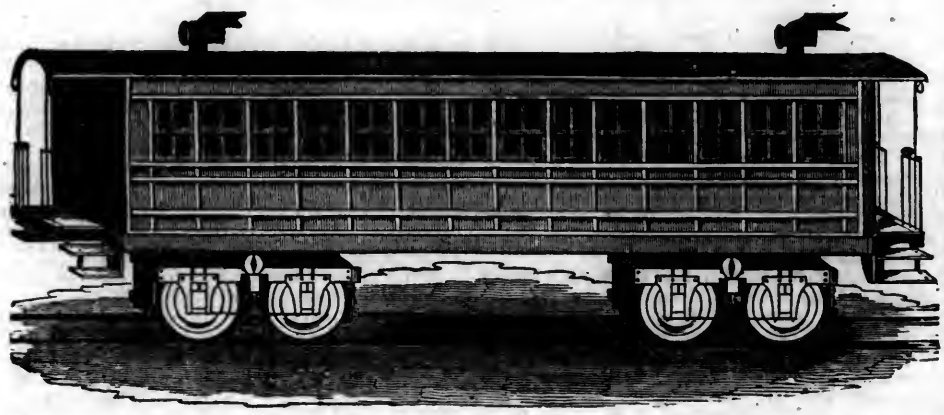
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*f*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER,
1y10 17 Burling Slip, New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No 34] SATURDAY, AUGUST 19, 1848. [WHOLE No. 645, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, August 19, 1848.

Alton and Sangamon Railroad.

This, road, when completed, is to extend from Alton to the city of Springfield, in Illinois. We have received, says an exchange, from Wm. P. Crocker, Esq., of Meredith Bridge, N. H., copies of the report of the survey of the route of the road, together with estimates of the cost of construction, and a general view of the route. The importance of this projected work is second to that of few works of the kind in the country. If ever a line of railroad should be formed, uniting Boston and New York with the Mississippi, the road from Alton to Springfield must form a link in the connecting chain.—The great point to be reached on the Mississippi is St. Louis. Alton is but 25 miles by river above that city; a double line of daily packets now ply between the two places. The running time downward is but an hour, and the upward passage requires but an hour and a half. Alton is, also, at the head of navigation for the largest class of steamboats. It is but three miles above the mouth of the Missouri river, and fifteen below the mouth of the Illinois. It is also on the extreme point of that bend in the river where it makes the greatest sweep into the State.—A great amount of produce is shipped at this place for New Orleans, with which the river affords constant communication throughout the year, except an occasional suspension of one to four weeks in the severest winters. Springfield, the other terminus of the proposed road, is the capital of the state, situated in its very heart, and in the centre of its most populous and productive region. It is one of the termini of the Sangamon and Morgan road, leading by way of New Berlin and Jacksonville to Meredosia on the Illinois. This last, which is called the Northen Cross Railroad, is to be put in repair and in operation by next summer. The Northern Cross company have the right of extending their road eastward in the direction of Lafayette, to the Indiana state line and in aid of their object the state has granted them all the materials, grade and work, amounting to more than $200,000, expended on this route which was previously located by the state.—From Lafayette a connection can easily be made with the Michigan Central railroad at New Buffalo, or at Michigan city. At present, it is well known that there is a constant tide of travel and emigration pouring from the east to the Mississippi river, while after leaving the lakes the only mode of public conveyance offered, is by stages and by boats on the Illinois river. Besides the river is in a suitable state of navigation for only three or four months in the year. The building of the Alton and Springfield road will, it is believed, supply the deficiency in a most satisfactory manner. The distance between New Berlin and Springfield, 16 miles, the company are authorised to use the Sangamon & Morgan road. The construction of the remaining 64 miles, is estimated to cost $12,234 per mile, or $783,000.

An estimate of the probable receipts, made by prudent men, well acquainted with the capacities, resources and business of the country, gives $237,000 a year for freight of all kinds, $75,000 for passengers, and $4,000 for mails, which would present an aggregate of $316,000 for gross annual receipts, and after deducting $76,800 for running, repairs, and other expenditures, would leave $239,200 as net income, or nearly 33 per ct. on the investment. We exceed the estimate of receipts in the report a little, and but a little for the sake of using round numbers. There can be little doubt that the road would pay well, and prove of the highest utility to tens of thousands of our citizens going westward, and to the country at large.

New York Railroads.

The routes from Albany to Buffalo—now so greatly travelled by seekers of health and recreation—are thus described in a recent number of the New York Tribune:

"The line of railroads from Albany to Buffalo now do their work in excellent time. The train which leaves Buffalo at 8 a.m., is in Albany about 6 the next morning—in ample season for the day boats to this city or the cars to Boston. Leaving this city by boat at 7 p.m., you are taken to Albany by 4 or 7 next morning; breakfast and start by cars at 7½ a.m.—reach Utica by 1 p.m.; dine, and are taken to Syracuse before 6 p.m.; take tea, and proceed after a halt of 30 or 40 minutes; pass Auburn at 8; Canandaigua at 11; Rochester from 1 to 1½ a.m.; Batavia about 4; and at 7, or a little later, in the morning, stop at Buffalo, breakfast, and are ready for the steamboats up the lakes, or cars to the Falls at 9 a.m., having been 36 hours in traversing the distance from New York to Buffalo, which (by route) is little short of 500 miles. The halts at all the principal places on the route are just sufficient; you have time to eat, and are charged nothing for all the sleep you can catch; while the pace is quite as rapid as the state of the roads will justify.

"The present charge ($12) for a passage through is exorbitant, but it is some consolation that a good part of the receipts are devoted to the much needed improvement of the track.

"Another rival route to the western half of the great artery is already doing a handsome business, and is destined to increase it. By this you leave Buffalo at 9 a.m. for Niagara falls, have two or three hours to devote to the great wonder, dine at the Eagle or Cataract (one of the largest and best hotels in America), take the cars to Lewiston, (the ride affords one of the finest views in the country), take the steamboat for Oswego, where you arrive very early in the morning, breakfast and take packet for Syracuse, or stage (by plank road) for Rome, having in either case a ride through a fine country, and heading by some hours the train which reaches Albany at 6 next morning. By this route you are put back one train at present, but very soon the railroad from Syracuse and Oswego will be completed, and then travellers who leave this city at 7 p.m. will be taken to Oswego by 8 next evening, then take boat and berth for Lewiston, cars to, and breakfast at, Niagara, and (if hurried) be in Buffalo early in the day, having made the journey hence to lake Erie in 40 hours, sleeping comfortably on steamboats both nights.

"When this opportunity shall be proffered, the western railroads must carry much cheaper than now, and yet lose a large share of their trade.

"An admirable new boat—the Ontario—has just been put on the lake, and two more are in eagre preparation for the opening of the Oswego railroad—

which we think is expected to take place next month. After that, the beautiful valley of the Oswego river which combines remarkable fertility with an amount of water power rarely equalled, will be far better known than it has yet been."

The Hudson River railroad will be completed in the year 1850. The number or passengers now passing annually, on the river between New York and Albany, is about one million. It is estimated that during the first year after the completion of the road, the increase will be half a million more.

The Harlem and New Haven railroad will be completed during the autumn to Dover Plains, 82 miles from New York city, and 22 miles east of the Hudson river.

New York is getting aroused in relation to railroads, and she will now soon get where she *ought* to have been several years ago.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 5th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Aug. 8.	3,209 16.	127,971 02
By Room Run ....."	3,409 13.	64,077 09
By Hazleton.....	3,417 00.	50,644 00
By Beaver Meadow.....	3,975 06.	34,706 00
By Spring Mountain.....	1,811 16.	39,270 19
By Buck Mountain.....	1,733 19.	34,514 10
By Cranberry Mines.....	1,125 00.	7,880 00
White Haven.....	803 11.	3,916 15
Total.....	18,486 01.	364,980 15

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 10th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven.....	15,332 05
" Pottsville	5,265 19
" Port Carbon.....	10,612 10
" Port Clinton.....	3,383 03
Total this week.....	34,593 17
Total this year.....	770,221 06

The amount of coal brought to market by the Schuylkill canal during the week ending the 10th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon.....	10,267 00
" Schuylkill Haven.....	4,568 03
" Port Clinton.....	1,513 19
Total this week.....	16,349 02
Total this year.....	233,522 08

Recapitulation.—Total Shipments this Season.

By Lehigh companies.....	364,980 15
By Reading railroad.....	770,221 06
By Schuylkill canal.....	233,522 08
By Delaware and Hudson canal.....	210,249 00
Total.....	1,578,973 09

Belpre and Cincinnati Railroad.

We have received a copy of the charter for a railroad from the Ohio river, at Belpre—opposite Parkersburg, in Virginia—where the Baltimore and Ohio railroad *ought* to, and *will eventually*, terminate—to Cincinnati; passing through Athens, Hocking, Ross, Highland and Clereinont counties.

This road, by itself, passing, as it does, through some of the most populous towns and counties in the State, will pay a fair return upon its cost: but when there shall be a proper connection, as there will be, between it and the Baltimore and Ohio road, it must become a very important and *profitable* link in the great western chain of railroad.

The route will be very direct, and its line sufficiently distant from the Ohio, and from any other proposed line in the same direction, to give it a large business. We cannot, however, give as good an idea of its future business, as is given in a report by *Wm. P. Cutler, Esq.*, who was appointed, in September, 1847, to investigate, and report, in relation to the probable business of the road. He says that "Agricultural produce, and the conveyance of passengers, have usually given the most profitable employment.

"A careful examination of the amount of business of this character, in readiness for a line of improvement on the route of the Belpre and Cincinnati road, has led to the conclusion that a more inviting field, for the investment of railroad capital is not presented in any similar enterprise of the day.

"The route passes the southern extremity of the Muskingum valley; cuts the Hocking valley centrally; and, in its western course, equally divides the most fertile portions of the Scioto; thence extends through the fine wheat growing region embraced in the counties of Highland, Clinton, Fayette, Brown and Clereinont. The soil is admirable adapted to the production of all the great staples which constitute the internal commerce of the country.—Although the heavy timber and hilly surface, of a portion of the route, proved forbidding to the early emigrant, the last 20 years have shown an increase of population, not surpassed in any portion of the State, whose lands have been in market the same length of time.

"This line of improvement becomes the proper extension of the two important State works—the Hocking canal and Muskingum slackwater navigation—crosses the Ohio canal at right angles, receiving benefit from all and doing injury to none. It is, in fact, the GREAT CENTRAL ROUTE, not for the *State*, but for the *Valley of Ohio.*

"The principal portion of the agricultural produce is too far interior to be withdrawn from a railroad, by the river communication with the southern markets, and too far distant from the lakes, to be accommodated by northern connections with the seaboard. *It is that portion of western produce which Baltimore may command without fear of rivalry.*"

On another page he says, "A very important item of export, and one peculiar to this route, is found in the large number of cattle, annually driven from the Scioto valley. It now requires from 50 to 60 days to place them in market; at an average expense, including loss in quality and quantity of beef, of $20 per head. The number driven, at present, may be stated, in round numbers, at 20,000 head, which estimate would include that portion of Kentucky stock which might be expected to pass in this direction.

"Fifteen dollars per head, for transportation to Baltimore, would yield the whole line of road a revenue of $200,000: or to the Belpre and Cincinnati road, about one-third that sum. At the same time, an annual saving would be made to the producer, of $100,000, to which would be added the important advantage of a regular and systematic supply of the market, based upon a knowledge of its daily demands.

"Large numbers of hogs, horses and other live stock, are also, annually, driven to the eastern and other markets. It is stated by gentlemen conversant with the business, that 40,000 head of hogs have been driven, the past season, from the neighborhood of Chillicothe, besides those which have been slaughtered. 3,000 head of grass cattle, and 3,500 head of sheep, are known to have been driven from one county on the route during the year.

"The amount of these items may be safely set down at 7,000 tons; the freight of which would be worth $87,500, to the whole line, or $26,250 to the Belpre and Cincinnati company. From the statements below, we have the following totals, in tons and value of freight, between Marietta and Cincinnati, exclusive of any business which might be derived from the latter point.

	Tons.	Income to B. &C. co.	Income to whole line.
Marietta to Chillicothe..	65,761	169,303	749,198
West of Chillicothe.....	20,000	90,000	270,000
Beef cattle.....	15,000	100,000	300,000
Hogs and other live stock	7,000	26,250	87,500
	107,761	$385,553	1,506,698

Without pretending to understand the detail of the business of this region, we judge and speak of it as a part of a system, in a very favorable position, which must be useful and profitable to the people, and to its shareholders.

The Belpre and Cincinnati railroad company was organised on the 18th day of August, 1847, under a law of the State of Ohio, passed March 5th, 1845. The following gentlemen compose the board of directors and officers, viz:

Directors—Allen Latham, Allen Trimble, W. O. Collins, John Maderia, Wm. H. Price, Wm. Marshall Anderson, John L. Green, Wm. Ross, David Richmond, John Ballard, A. B. Walker, Noah L. Wilson, Wm. P. Cutler.

Secretary—Seneca W. Ely.

Treasurer—John Maderia.

Engineer—William H. Price.

Land Damages against Railroad Companies.

The demands of land owners upon railroad and canal companies, or for the privilege of passing through the property of individuals, has been a source of much complaint, both in this country and in Europe. It appears that many persons think, or act as though they thought, it was no wrong to demand from a State or a company, double, or *ten times* what a thing is worth, *if they must have it!*—There have been cases in England where the "right of way" through property, cost nearly, or quite as much as to make the road after it was obtained; and in this country demands have been made, upon railroad companies, for the privilege of passing through farms, which were little better than *highway robbery.*

We would always sustain a *fair demand* for property taken, for public use; but it is high time that those, who would *rob* a company, or a State, because there is no law to punish them for it, should be met with a just *reproof*, as has been the case in a decision of the Supreme Court of Pennsylvania, which we give in this number of the Journal. The following remarks of the editor of the Evening Bulletin, are appropriate and just, and better than we could express our own views, therefore we give them entire.

The editor says: "We gave a synopsis yesterday of the late decision of the Supreme Court, in reference to the exorbitant damages so frequently awarded against railroads. Our space did not permit us, however, to enlarge on this decision, at least to the extent the subject demanded. It is, perhaps, not generally known that we owe a considerable portion of the public debt of Pennsylvania to the practice which the Supreme Court has thus denounced.—When the public works of the State were in progress of erection, it was a frequent habit for land owners to solicit that a canal might pass through their ground—promising to furnish the tract free of cost; and it was just as frequent for these proprietors, when the canal had been run as they wished, conveniently to forget their promise, and bring an action for the price of their land. In nearly every instance moreover, where such suits were commenced, the jury

gave decisive damages, sometimes amounting to ten times the real value of the land. In fact, as we stated yesterday, jurors made common cause in behalf of themselves and their neighbors, fleecing the State without mercy!

"We only regret that the Supreme Court did not interfere before. For nearly twenty years this practice has been the disgrace of our State; yet the law has never interposed in any way to check it until now. The jurors who united to give these excessive damages, little imagined they were plundering the public treasury, or picking the pockets of corporations; but their conduct bears this construction, nothing else; and, indeed, is morally, if not legally, a conspiracy to defraud. It is just as much a robbery to go into the jury box and give an unrighteous verdict, as it is to stand on the highway with a pistol in hand, and cry "stand and deliver." Our morality admits no difference between stealing in company, and stealing alone, between stealing with the strong hand, and stealing under the forms of law. The commonwealth has rights, corporations have rights, and those rights are as sacred as the rights of private individuals; yet many a respectable citizen has grossly violated those rights, by awarding excessive damages.

"We trust the public press, not only in the city, but country, will take up this subject. The public sentiment, it regard to it, needs reforming, and the press, in a republic, is the true conservator of morals."

PENNSYLVANIA RAILROAD DAMAGES.

Important Decision of the Supreme Court of Pennsylvania.

The Pennsylvania railroad company, vs. A. O. Heister: same vs. William McClure; same vs. D. Luther Reiley.—Certioraris to the Quarter Sessions of Dauphin county, July 5, 1848.—Rogers J.—The 12th section of the act to incorporate the Pennsylvania railroad company directs that whenever the company cannot agree with the owner as to the compensation to be allowed for the injury done his land, or the price of materials taken for the use of the company, it shall be the duty of the Court of Quarter Sessions to issue a precept to the sheriff, commanding him to summon twenty discreet and disinterested freeholders of the county to act as jurors, whose duty it shall be to ascertain *and report to the court* whether any, and if any, what damages has been or may be sustained by the owner of the land, and by reason of the construction of the railroad. And having viewed the premises, the jury is directed to estimate and determine the quality, quantity, and value of the land taken and occupied, having due regard and making a just allowance for the advantages which may have resulted, and which may seem likely to result to the owner in consequence of the opening and making the road. And after having made a fair and just comparison of the advantages, they are to estimate and determine whether any, and if any, what amount of damages have been or may be sustained, and to whom payable, *and make report thereof to the court;* and if damages be awarded, and the *report be confirmed by the court*, judgment shall be entered thereon; provided, if the award be not confirmed and *justice* may seem to require it, a new inquisition may be ordered by the court. In this section the intention of the legislature is plainly evinced, that the report of the jury of inquest shall be returned to the court in which the proceedings originated, that they may have a supervision and control over the award of the jury, which is only available when it meets their approbation: when, and when only a judgment shall be entered, and execution may issue. When justice demands it, the act requires the proceedings to be set aside, and a new inquisition awarded. Although this part of the question is somewhat obscure, yet, we think the design of the legislature is manifest. They certainly did not intend that the return of the inquest should be a vain and idle ceremony, but that it should be the duty of the court to inquire whether justice had been done before adding their sanction to the verdict of the jury. And if in their opinion injustice had been the result, proceeding from whatever cause or nature it may, whether from undue influence or mistake, it is made their duty to refer the case to a new inquisition.

When the court conscientiously believes injustice has been done, to refuse to interfere for no other reason than that the inquest have come to a different conclusion, is in our view, a narrow construction of the act. The legislature intended the court to be a check upon the jury, and when too much, or too little, in their judgment, is awarded, justice, which is the governing rule, requires it should be ordered for a new hearing. But this does not seem to have been the view taken of the act by the court. They have gone on the erroneous impression, as is manifest, that they were not bound to interpose their veto to the award, unless the damages were so excessive as to show plain and palpable mistake of duty, or an error arising from some improper cause, such as fraud, or corruption, or undue influence. The court say, there is no charge against the jury; they are discreet and judicious men, so far as we are informed, and, with the opportunity they had they are better qualified and more competent to ascertain the damages under the law than we are, *although their estimate seems large to us*, with our limited means of judging; but there is nothing in the report to satisfy us that they have assessed the damages in this case under a *plain mistake of their duty, or from any other improper cause.* We have already approved the finding of a jury when it seemed as if they had assessed the *damages very low.* We can discover no legal objection to the report of the jury in this case. The mere fact that it is higher than, with our limited means of judging, we believe is right, is not a sufficient cause for us to interfere. To do so, we would assume a power never intended by the legislature. Taken in connection with other parts of the opinion, it is difficult to mistake the views of the court. In language to plain to be misunderstood, they express their belief that the legislature has not delegated to them the power to interfere, unless in case such excessive damages being given as leads the mind to the conviction that some improper influence has been brought to bear on the jury. They seem to think, because they have ruled on this idea, a case where, in their judgment, the damages were too low, consistency requires them to do the same where the damages are too high. It is in truth a remarkable feature of this case, that the court have confirmed an award which they themselves believed to be unjust, and that, too, in a case where it is difficult for any unprejudiced mind to come to a different conclusion.

We have the glaring cases furnished to us of juries undertaking to allow to Mr. Heister for two acres and fifty three perches, the enormous and extravagant sum of $1750; to Mr. McClure, for two acres and six perches, $1,263; and to Mr. Reiley, $1850, for three acres one hundred and fifteen perches and two hundredths of a perch: that is to say, for less than eight acres of land the damages are a little short of $5000, the average value of which would not exceed $120 per acre. And these damages, be it observed, are assessed for land situate near the borough of Harrisburgh, which cannot fail to be benefitted to a great extent by the construction of the road, adding to the value of whole tracts by affording an improved market for the produce of their farms.

The jury appear to have overlooked or disregarded the true rule in estimating the damages, viz: a fair and just comparison of the value of the whole tract through which the road passes, before and after the improvement is made. Is the property benefitted, or is it injured by the improvement, is a most material inquiry. If benefitted, the owner neither is, nor ought to be, entitled to recover any compensation whatever; if really injured, not a mere fanciful injury, compensation is to be given to the amount of the damages sustained by the owner. In coming to their conclusions, they may properly inquire what the property would sell for before and after the improvement is made, and in successful operation.

In this view of the act the advantages are altogether on the side of the owners, who pay nothing when they, as in most cases they do, receive a benefit, but who are remunerated invariably when injured. Indeed we are not without instances of owners benefitted to the amount of thousands, who nevertheless had the modesty to ask and receive damages at the hands of a jury. Had there been anything peculiar in the situation of these lands, something tangible, making them an exception to the general rule, there would be some show of reason in the estimate of damages. But I have looked in vain for something to distinguish these cases from other tracts thro' which the road must pass.

So far from any peculiar hardship in the case of Dr. Reiley, it appears that the company had determined to locate a depot, machine shops and warehouses, adjoining his lands, and that they offered in presence of the jury $500 an acre, for ten or fifteen acres of his land, because of its vicinity to the site of the intended improvements. It cannot but be observed that the amount awarded in these cases is nothing in comparison with its effect in other respects; for if we sanction these verdicts, and the same rule is applied throughout the whole line the damages will be swell-

ed to an amount as greatly to embarrass, if not seriously endanger, the ultimate success of a work destined at no distant day to increase the prosperity of the commonwealth to an extent beyond the most sanguine calulations. But although the estimate of damages passes all reasonable bounds, we are by no means astonished at the result when we see the means by which it has been produced.

These cases have furnished a practical commentary, showing the wisdom of the legislure, in providing an efficient check upon the jury. The *modus operandi*, we are told in the uncontradicted testimony of Messrs. Rutherford and Walters, two of the jurors. In Hiester's case, the jury was called on to allow damages for the general depreciation of lands, in consequence of railroads passing through them. To sustain this position, he was permitted to examine persons living along the Harrisburg and Lancaster railroad, as to its effects on the lands contiguous to the road. More unsatisfactory evidence could scarcely be imagined, as it may be on that road injuries, if any did occur, may have arisen from injudicious and improper management.

Damages were also asked (properly I admit) for consequential damages likely to occur from the use of locomotives: such as burning fences, crops, etc. Heister demanded, and possibly received (as we can account for the finding in no other way) compenstion for trespass committed by the corps of engineers, in locating the road, amounting to the neat little sum of $200.

Mr. Walter says, that after the testimony and arguments were closed, a general conversation took place as to the items that should compose the finding of the jury. It was their unanimous opinion that Mr. Heister should be allowed a certain amount per acre for his land, and the costs of making the fences on both sides of the road; and a portion of the jury were for allowing him a certain sum for keeping them in repair after they were made. After this general mode was adopted in assessing damages, each member of the jury marked on a ballot the estimate put on it, which were then thrown into a hat, and the aggregate divided by the number of jurors. The damages he says were about the sum reported. After the result of the damage was announced, there were various propositions made to reduce the amount, but a majority of the jury was opposed to it.

A motion was also made to increase the amount, which was also voted down. A proper estimate may be made as the effects of this mode of ascertaining damages, by the uncontradicted fact that three or more of the ballots were for giving over $3000 for about two and a half acres of land. From this it is evident that some, if not a majority, of the jurors considered a railroad as a serious disadvantage, decreased the value of the land in question, in the view of some of the jurors, two thousand dollars, in others a little short of that sum; an opinion worthy of the dark ages, but which should receive no countenance from a court of justice in the nineteenth century!

It is, I assert, not a mere trifling excess in the finding which will justify the court in disregarding the verdict of the jury. But I cannot subscribe to the doctrine laid down by the court of quarter sessions, that they must be satisfied from the evidence given that the jury was led into manifest error in the assessment of damages, or from any other cause injustice was done to the parties beyond all question, so as to lead the mind of the court to the belief that some improper influence was the cause of the report. There is no such stringent rule, as the court have supposed, applicable to the case; on the contrary, it was the design of the legislature that the court in good faith should superintend the finding of the jury, taking effectual care that even handed justice should be done to the company as well as the owner of the land. They are bound to interfere and direct a new inquest whenever it sufficiently appears that too much or too little damages have been awarded by the jury.

It is not administering the justice which the act requires, unless the merits of each case are steadily kept in view, much less is the court justified in refusing to order a re investigation when they conscientiously believe more has been given than the land taken is worth, allowing for the advantages and disadvantages attending the location of the road, and the purposes for which it is to be used. The value of the land must be estimated in view of the value of the whole tract, unless something be shown to make the case an exception. Taking this as the rule, the land would be well paid for, at an estimate of from $100 to $150 per acre, supposing the advantages and disadvantages be equal. It must be recollected that it is the value of the land to the owner, and not to the company, that is the criterion of damages.

In the two cases of McClure and Dr. Reiley, exception is taken to the manner of selecting and summoning the jurors as appears by the testimony of Jacob Shell, the deputy sheriff. Although I am perfectly satisfied of the integrity of the transaction, yet I am convinced the plaintiff has proceeded in a mistaken view of his duty. The plaintiff is commanded to summon twenty discreet and disinterested freeholders from the body of the county, and not from a list prepared for the purpose by another, although that other be the deputy sheriff.

In Novinger vs. Ayres, an opinion was intimated that perhaps the deputy sheriff may be permitted to select jurors; but, on more mature reflection, I am satisfied that none but the sheriff himself is competent to perform that duty. It is a judicial act, requiring judgment and discretion, which cannot be deputised to another.

It will be readily seen, that with the purest intentions on the part of the sheriff, (if we sanction the practice of permitting him to select the jurors from a prepared list, prepared as here because of clamor raised by interested persons,) it will eventually lead to great injustice. It will go far to corrupt the fountain of justice, and strike at the usefulness of one of our best institutions. We must take care that jurors be not only pure, but unsuspected. The practice is dangerous in its consequences, and the sooner it is nipped in the bud the better for the pure and wholesome administration of justice.

In Mr. McClures case it is further urged that the report of the jury is incorrect, uncertain and contradictory, inasmuch as they find damages for the land twice, and estimate the same at different values. And this is true, but an attempt is made to explain the mistake by the supposition that it was the design of the jury to value the land in the first instance at the sum of $220 per acre, and this explanation would be satisfactory, were it not that it does not tally with the second valuation for setting aside the six perches: the two acres will amount at that rate to $456. This is a mistake, perhaps, against the claimant, but it seems to show a want of accuracy, to say the least of it. If necessary, it might be urged with success against the confirmation of the report, but we do not put his case on that ground, but on general principles, and the improper manner the jurors were selected by the sheriff.

But it is said the court has no power to examine the merits of the report, and set the award aside, on the mere ground of inadequacy or excess of damages. In the case of the commonwealth vs. Fisher, 1 P. R., 462, it is asserted the supreme court have the authority to set aside a report for excessive damages, although it must be on a strong case. But in Willing vs. the Philadelphia and Baltimore railroad company, (a case of doubtful authority) the power is denied even to the court of common pleas, a restriction which does not apply here. The act under which that case was ruled differs from this in its phraseology. The report was to be made and placed in the office of the Prothonotary, and not as here directed to be made to the court, and confirmed by them. In Allion vs. the Delaware and Schuylkill canal company 5 Whart., 460, it is ruled that this court has no power to examine into the merits of the report, and set it aside on the mere ground of inadequacy or excessiveness of damages.

This is the general rule, with which we are not disposed to interfere. But when it appears, from the opinion of the court which comes up with the second, that the court of quarter sessions have refused to interfere, on improper principles and mistaken views of their power, in cases, too, where it evidently appears they ought to have interfered, it becomes the duty of this court to do what they ought to have done. Unless we assume the power there is a palpable wrong without the means of redress. So when it appears, from depositions or otherwise, that the tribunal of the first resort has been improperly organised, or when the jury has been selected by any other than the sheriff himself, it is our duty promptly to set aside the proceedings. And this is the established practice in analogous cases; as, for example, in pauper cases, in road cases, in proceedings under the landlord and tenant law, *et id omne genus*, of which we have had several instances during the present session of the court.

The judgment of the court in each of the cases named is reversed, and the proceedings set aside.

A true copy of the opinion on file.

Test: P. C. SEDGWICK, Prothonotary.

Upon the rendition of the judgment, Mr. Alrichs, on the part of the defendants in error, moved that a *procedendo* be awarded in each case, to enable the company to proceed as they have taken the initiative.

Upon this motion the court said: The court overrule the application for a *procedendo*.—The proceedings being set aside, the claimants must commence *de nova*. Whether the claimants *may* commence proceedings under the supplement to the act, passed the 13th of April, 1846, the court decline to give any opinion."

Kunkel and McCormick for plaintiff in error; Berryhill, Rown, Alrichs and M'Clure contra.

Hudson River Railroad.

We have had for some time before us the first annual report of the directors of this company—accompanied by an exceedingly interesting report from the chief engineer, J. B. Jervis, Esq. The peculiar position of this road, along the margin of the best steamboat navigation in the country, and the necessity of constructing it in a manner which will enable it to sustain a fair competition, with its powerful *rivals*, the floating palaces on the Hudson river—rendered it necessary for the engineer to adopt the almost water level of the river—and to investigate thoroughly the working of the railway system—under the most favorable circumstances—for reasons to sustain him in such a course; and this report shows that he means to do well whatever he undertakes.

The tabular statement and summary of the seven Boston roads will be found both interesting and useful. They show an increase of business altogether beyond the anticipations of their most sanguine friends.

The number of passengers carried on the seven roads emenating from Boston, viz: *four million and seventy-five thousand* in the year 1847—the average receipt from each of which was only 41¼ cents—shows the large proportion of way travel upon *low fare roads*—and it is upon their ability to adopt a *lower* rate of fare, on this, than on any other road in the country, that they expect to make it a profitable investment.

They are making good progress in its construction, and intend to have it in operation to Poughkeepsie in less than *one*, and to *Albany* in *two* years—when we shall see what it can and will do.

First Annual Report of the Directors of the Hudson River Railroad Company to the Stockholders, June 12th, 1848.

The directors of the Hudson River railroad company respectfully present to the stockholders their first annual report.

On reference to the financial statement, (which will be found appended,) it is a subject of congratulation, that notwithstanding there has been unnecessary depression of the stock of the company, we have no good reason to complain of want of punctuality in the stockholders, and it is only to be regretted that any of the early friends of the road, affected by extraneous influences, should have been induced, by an uncalled for panic, to sacrifice their stock, by disposing of it at less than the par value. It would be an invidious and useless task to enter into an explanation and refutation of all the many misrepresentations which have been circulated to the injury of the company by the opponents of this great public work. One or two, however, of the most prominent and sinister objections that have been urged against the success of the enterprise, we deem it proper to notice. *First*, that the necessary funds would not be raised to accomplish the work, which would cost double the amount first reported by Mr. Jervis, the chief engineer of the company; and next, that if raised, the undertaking was of such difficulty and extent as to require a long series of years to accomplish it. That a work of this magnitude cannot be executed without competent means, no one will deny; and that something more than the original estimate may be found necessary, without impugning in any way the correctness of our chief engineer, the directors are free to admit. This has arisen from two causes, principally; *First*, the exorbitant claims for land damages; these having greatly exceeded every reasonable calculation, so much so as to have compelled the directors to ask a modification of the charter in relation to the mode of assessing our land damages, which, we are happy to state, was freely granted by the justice and liberality of the legislature of this State, thus removing one of the greatest obstacles to our success, and at the same time enabling us to improve the economy of the work, by dispensing hereafter with the services of the several land agents along the line. Next, the original estimates of Mr. Jervis from Fishkill to Albany, it is made known, were based upon Mr. Morgan's survey and report on the interior route; subsequent and more careful surveys having convinced the board of directors almost unanimously that a much better and more level, although in the first instance, a more costly line, could be procured by following the margin of the river, they were induced to adopt it, even at an increased estimate of $538,663, a sum trifling, indeed, when considered in connection with the vast trade and transportation, both of merchandise and passengers, which must eventually pass over the road, and which would otherwise have been subjected for 54 miles between Poughkeepsie and Albany to a grade of 17 feet to the mile, while the river route presented one practically level, the deviations in no case exceeding 10 feet to the mile, and these for short distances only; the aggregate of the whole being within 8½ miles—but for a more detailed statement and estimate in relation to this subject, the directors would refer to the report of the chief engineer, published by them on the 12th January last.

That nearly the whole three millions of dollars originally subscribed will be paid in, the directors see no good reason to doubt; and although some of the small subscriptions may be forfeited, the forfeiture must inure to the benefit, not to the injury of the other stockholders; with a policy based upon this foundation, it has been, and continues to be, the intention of the directors to urge the completion of the road, and to put it in operation from New York to Poughkeepsie in the month of May or June, 1849; and in the mean time, to commence with the more difficult sections, those that will require the longest time to complete between that place and Hudson, so as to prepare the remainder of the road for opening in the year 1850, or earlier if possible, and they are happy to state that the progress of the work is such as to afford every reasonable assurance that this will be accomplished; but to do it, and at the same time to procure the necessary engines, freight and passenger cars, with the erection of depots, etc., will require about four millions of dollars. Independently of the three millions subscribed, the company have authority by the amended charter, to borrow three millions of dollars; an authority which it is not necessary for the board to exercise, until the three millions subscribed has been expended on the road. Can it then be a question, whether the loan of the necessary funds, based upon a mortgage of the work, as authorised by the charter for the repayment at 7 per cent. interest, would not readily be taken in this great commercial emporium. Those who doubt it, must have less confidence in the judgment and sagacity, not to say patriotism, of capitalists, than your present board of directors.

That the work in which we are engaged is a great, and to a certain extent, a difficult one, requiring both time and money, we freely acknowledge, but that it presents any difficulty which ordinary energy and perseverance will not overcome, we cannot admit; and we assure the stockholders that our confidence of success is not only unabated, but strengthened by the events of the last year, which show an enormous increase in the trade and transportation on the canals of the State, and by the increase in freight and passengers on all our railroads west and north of Albany, in a ratio far beyond the most sanguine expectations. We feel it, therefore, our duty to state, that we most fully concur in the estimates of the chief engineer, herewith presented, and that we believe that the road when completed with but a single track, will not only yield a return of 10 per cent. on its cost, but that we shall be compelled by the growing trade of the State, and that of the great west and north, which must more or less concentrate on it, to lay a double track throughout the whole line as fast as the circumstances of the company will permit.

One year and a quarter has now elapsed since the organization of the company. The engineer department was established, and the first party took the field for surveys, a little more than fourteen months ago. Since that time it has, under the instructions of the board, discharged the varied duties devolving on it, namely: conducting surveys, and preparing maps for the location of the line; plans for the structures required; forms of contracts and specifications of the manner of constructing the work; in laying out and superintending the construction; and in preparing the monthly estimates of work done. From time to time, as the work has pro-

gressed, the details of these duties have been communicated by the chief engineer in written reports. But they have necessarily been detached, and it appears desirable to present at this time a condensed, but more general, statement of the location and other matters relating to the work.

The line has been definitely located from this city to Poughkeepsie, (75 miles,) and the maps of the same have been duly deposited, according to the requirements of the acts of incorporation, in the offices of the several counties. The general location has been settled from Poughkeepsie to Albany. A locating party commenced at Poughkeepsie early in April, and have since been proceeding north with a revision of the line, to prepare it for definite location. They have prepared the line for mapping to Rhinebeck landing, about sixteen miles; and are proceeding with the field work north of that place. Since the board settled the general question of location from Fishkill Landing to Albany, over 36 miles have been carefully revised. The direction of the line has been somewhat improved, so that there will be no curve between Fishkill Landing and Albany of less than 3,000 feet radius. The revision so far, together with the contracts for the line between Fishkill Landing and Poughkeepsie, confirms the opinion that the estimate of January last will be sufficient to construct the work.

The work on the line between this city and Fishkill Landing has progressed so far that the difficulties of this portion may be considered as generally developed, as also the stability of the work. The river walls have been, in many places, exposed more than they will be when the work is completed.

In general the river is shoal, (1 to 3 feet deep at low water,) for a distance of from 100 to 150 feet from the shore or wall of the railroad, and the piling of the light ice of last winter was, for the most part, along and near the channel of the river, only reaching the railroad in force at a few places. At those points where the ice reached and piled up against the walls, they successfully resisted its action, and no perceptible damage was done.

The action of the wind in cold storms was at several times last winter, very severe, causing the spray to rise with as much force as at any time. This influence was carefully noticed at the most exposed points on the river, and the result has been to show conclusively that no injury need be apprehended from this influence.

The action of the surf requires attention at those points of the line where the material of which the embankment is formed is of a light and sandy nature. For the most part, fascines are found a sufficient protection against this influence, but, to a limited extent, it is necessary to secure the embankment by a course of heavy gravel or small stone. For the main part of the line, the materials of which the embankments are composed are sufficient, with the river wall, to resist every action of the river against the work.

Settlement has taken place to some extent in several of the bays and marshes crossed by the line, but in no case has it been such as to give serious ground to apprehend material increase in the expense of a permanent security of the work. There is no doubt the road will be one of the most substantial character, and of easy maintenance after it is put in operation.

The route of the road required an unusual amount of labor to determine and maintain the line of location, involving extensive hydrographic, as well as geographic surveys and investigations. In many places great perseverance was necessary to carry the line and set the necessary marks of location.—Notwithstanding the impediments to its progress, 75 miles have been definitely located and put under contract, and the remaining 68 miles have been approximately located so as to settle the general question of location.

Tabular statements, showing the lineal arrangements of the line and the grades of the road, will be found in the appendix.

With the exception of about five miles of the line, there is no curve less that 3000 feet radius. The grade from the point where the line leaves the influence of the streets and avenues of this city to Greenbush, a distance of 138·45 miles, has a total rise and fall of 213·5 feet. This, as will be seen by reference to the table, is made up of several short ascents which have been adopted to avoid points in the river shore difficult to follow. The 15 feet grade occurs on entering the village of Poughkeepsie, and being half a mile long, reaches the depot where all trains will stop, and is therefore of no practical importance.

Except it be in the valley of the Mississippi, a route as to grades and line, can hardly be found in this country of so favorable a character. It will admit of very cheap as well as rapid transportation.

The plan for grading is, to provide for a double track to Poughkeepsie, and a single track thence to Albany. For superstructure a single track throughout, with 25 miles double at depots, and for the meeting of through trains.

The estimate for this, taking the estimate of 1846 for the line from this city to Fishkill Landing, and the estimate of January last from the latter place to Albany (including the increase of cost by taking the river line) is, for grading and superstructure, $6,235,748. Expenses for land, with depots, engines and cars necessary to commence business, will cost probably a million more.

That increase of cost from taking the river line, will be more than compensated by the superior economy in working the road, and the command of a much larger amount of business. The line now occupies the best possible route for the great trade it will accommodate, and there is no ground to fear a competing line of a more favorable character to accommodate this trade. It must be gratifying to all the friends of the road, that circumstances permitted the adoption of this line, which makes it truly "The Hudson River Railroad."

There are now about 3000 men at work on the line between this city and Poughkeepsie, the most of them between the city and Breakneck hill. The line above Breakneck having been recently put under contract, the contractors, generally, have not perfected their preparations for employing a large force. It is expected there will be at least 4000 men on the line in the course of a month.

The grading will be so far completed that the laying of the superstructure may commence as soon as the next spring opens, and it is expected the rails will be laid down from this city to Poughkeepsie, so as to open it for use to that place in June of next year, when an important income may be relied upon.

Contracts have been made for the iron rails, and about 500 tons have been delivered on the line, and are in use, or shortly to be in use, as temporary track to aid in the construction of the road. Contracts have also been made for about 75,000 cross sleepers.

All which we respectfully submit.

By order of the board.

A. C. Flagg, Jas. Boorman, Gouv. Kemble, John B. Jervis, Myndert Van Schaick—*Committee.*

New York, June 12, 1848.

Pure Iron.

A Reply to Mr. Mushet.

There appears to be much speculation and want of clear knowledge, in relation to the manufacture of *iron*—a metal of the *first* necessity—and one that has been in use for centuries.

We are of the opinion that very important improvements are yet to be made—and possibly at no distant day—and we hope by some clever countryman of ours—in the manufacture of iron from the ore. Iron has become an article of such importance that both *mind* and *capital* will be brought to bear upon the subject, and important improvements will surely be made.

Could a man of wealth and science, be more usefully employed—or render more service to mankind—than to discover the means to make good bar iron for $25 or $30 *a ton?* We think not; and should delight to record the discovery, and do our humble share in handing down to posterity the name of the fortunate man.

We are led to these remarks by the following reply of Mr. Leighton, to an article written by Robert Mushet, Esq., which we published in a recent number.

Sir: I feel much indebted to Mr. Robert Mushet for his courteous, interesting and valuable letter of the 17th inst., which appears in the Mining Journal of last week. It will furnish me with abundant materials for thinking; but I must defer its consideration for the present—my attention being entirely devoted to other matters at this time. I will briefly relate the circumstances which first gave me the notion of iron in the state of pure metal. While engaged in the thankless and unprofitable task of extending the use, and increasing the consumption of anthracite coal, I was at iron works where they were working under Clay's patent for using a mixture of Lancashire iron ore, an oxide of iron, and some carbonaceous matter with pig iron in the puddling furnace. A quantity of very rich cinder was there produced, and turned out as refuse. I thought it a pity to see such a waste of iron, and proposed making some

trials to reduce it. We first run down some of the cinder with coke in a cupola. All the cinder which came within range of the blast came out of the cupola just as it went in—but, out of the range of the blast, we found the coke all bound together with thin plates, or films of iron, which was extremely rough and pliable when cold. I then thought of treating the cinder with carbon, before running it down in the cupola; but was of such a vitreous character, that carbon, either in its solid or gaseous state, would have no effect upon the solid cinder. On one occasion, when running down some prepared cinder in the cupola, it got set fast in the hearth, and the charge was left in all night. The next day, when cutting it out after it was cold, I found some lumps of iron in a peculiar state apparently very pure; and, although malleable in one sense, taking a deep indent of a hammer head, when struck cold—in fact like a lump of lead—still the blacksmith could do nothing with it in his fire; it would not work at all, crumbling to atoms under the hammer when hot. The idea immediately occurred to me, that this must be iron in its purely metalic state; and, by a train of reasoning, I arrived at certain conclusions, relating to the state and properties of bar iron.

I have just at hand a parcel of memoranda which I have made from time to time; and from these I will select a few leading points to explain my ideas. As soon as my mind is less occupied than it is at present, I will ruminate upon the facts which Mr. Mushet has given me, when I believe I shall find it necessary to make considerable modifications afterwards. No operation in the manufacture has yet been attempted to produce iron directly in its pure metalic state, as the thin sheets prepared for tin plates approaches it most nearly: but this is arrived at by a long and expensive rotine of operations, and the waste of one fifth or one fourth of the metal. Bar iron is a mixture of metalic iron and cinder—the former drawn into fibres during the operations of the mill and forge; the latter is an important compound of iron, not mere dross and refuse as generally regarded. This cinder is a compound of iron, oxygen and carbon, is fusible at a high heat, very adhesive and tenacious at a lower heat, hard and brittle when cold. Its presence, during the operations of working, is the cause of the metallic portion of a mass of iron passing into fibres, which are cemented together by the cinder, much as the fibres of hemp and tar in a rope—only, in the case of a bar of iron, there is no twisting. When pig iron is subjected to the refinery fire, it is acted upon by a blast in contact with carbon, coke, where it absorbs both oxygen and carbon, furnishing the elements of cinder, to facilitate the subsequent operation. In the puddling furnace, the pure iron and cinder separate—the iron being gathered up into a ball (a porous mass) which may be compared to a sponge, having the pores filled with melted cinder. Hammering or squeezing, and drawing out through rolls, produce the effect just stated. Cinder renders bar iron stiffer when cold, but more pliable when hot; it is the essential principle of welding; and its presence in merchant bars is necessary to constitute good workable iron for the use of smiths, or to be wrought afterwards into some other form. The deficiency of cinder in some iron—or rather, perhaps, the deficiency of carbon in the cinder—is the chief cause of the property termed "red short." But when iron is wrought at the forge into a form for permanent use, the more nearly it can be brought to the pure metalic state, without doubt, so much the better. The presence of cinder in iron, used for railway purposes, is very objectionable. The grinding and torsion to which it is subjected by the working of the line reducing this cinder to dust, the fibres become loosened—hence the lamination of the iron in the rails, so much complained of, and the alteration in the texture of the axles of railway carriage wheels, after being some time in use, which has been the subject of so much perplexity. I have hazarded these opinions with the view and in the hope, that they may elicit remarks upon this interesting subject from some of your more talented correspondents.

T. H. Leighton.

Cwmammon, April 25.

Commercial Distress of Great Britain in 1847, and the Railways.

The London Times has the following remarks in relation to this matter, and the report of the *secret committee*, appointed by parliament to investigate the subject.

The Times is not quite fair to the railroad interest, in its remarks, as it includes railways amongst the *alledged* causes of the revulsion, but does not allude to one of the resolutions accompanying the report, which exhonerates them from the charge: and we therefore give a short article from the Railway Chronicle, containing that resolution, accompanying the report of the committee on this point—and also an article from Herapath's Railway Journal, embodying the same extract, accompanied by editor's remarks at some length on the subject.

We have before often expressed the opinion here put forth by Mr. Herapath, that *other* causes, than the extension of railways, *produced* the disastrous failures throughout the country—but we give the three articles entire as we find them—emanating from three able papers in London: and first we give that from the *Times*.

The Secret Committee on Commercial Distress.—This committee, appointed by the house of commons on the 3d of December last, to inquire "into the causes of the recent commercial distress, and how far it had been affected by the laws for regulating the issue of bank notes payable on demand," has just made its first report. The committee have already examined several eminent members of the mercantile world, including Messrs. Hodgson & Turner, of Liverpool; Messrs. Muntz & Salt, from Birmingham: Mr. Gurney, the bill broker; Mr. Joshua Bates, of the firm of Baring, Brothers & Co.; Mr. Beavan, the banker; Mr. H. Palmer, and Mr. Cotton, of the bank of England; and Mr. Jones Loyd, Mr. Tooke and Mr. Taylor, gentlemen who are esteemed as great authorities in monetary matters. These witnesses generally concurred in the opinion that the primary cause of the distress was the deficient harvest and the failure of the potatoe crop in 1846, and the consequent necessity of providing the means of payment in 1847 for the large imports of corn, etc., from abroad. Other causes mentioned to the committee as having contributed to the result, were the deficient supply of cotten, the diversion of capital from its original employment to the construction of railroads,* and the undue extension of credit, especially in transactions with the east. The committee see no reason to doubt the accuracy of these opinions; the report observes that provision has already been made by parliament for some of the circumstances referred to, and that it must be obvious that others are beyond the control of legislative enactment. As regards the policy of the bank of England, the committee express their satisfaction at the recent change in the selection of the governor and deputy governor, "as calculated to improve the constitution of the governing body of that institution." Many of the witnesses, including the governor and deputy governor, expressed their belief that earlier steps in the autumn of 1846, and the spring of 1847, on the part of the bank of England, might have obviated the necessity for the more stringent measures which circumstances compelled the directors to adopt in April, and might thus have prevented the alarm caused by those measures. The evidence adduced as to the effects of the act of 1844 was contradictory, its beneficial effect, as regards the issues of the country banks, were admitted by many of the witnesses, and although some suggested an alteration of its provisions, very few contested the general principles on which it is founded. The committee, accordingly, after a careful review of all the evidence, report their conclusion that "it is not expedient to make any alteration in the bank act of 1844." We may observe, however, that this opinion was only suggested by a small majority; Mr. Hume having moved "That the laws for regulating the issue of bank notes payable on demand aggraved the commercial distress of England in the year 1847," the resolution was put, and only negatived by a majority of 13 to 11. Messrs. T. Baring, Spooner, Herries, Ald. Thompson, Glyn, Hudson and J. Wilson, voted in the minority—and the members of the ministry, with Sir Robert Peel, Sir J. Graham, Messrs. Cobden, Goulburn, J. L. Ricardo, and Thornley in the majority. A similar motion, condemnatory of the restrictive clauses of the act of 1844 relative to the issue of bank notes was subsequently made by Mr. R. Spooner, and negatived by 13 to 10, the difference being occasioned by the vote of Mr. Wilson, who voted in the majority. An attempt made by Mr. Cayley to impute the disasters in the East India trade to acts of the legislature which had depressed the price of colonial produce and the value of property in the East Indies, was defeated by a majority of 13 to 8. A third attempt to censure the bank act of 1844 was defeated by the some narrow majority of 14 to 10. The report was ultimately carried, in its aggregate shape, by a majority of

* See on this subject a paragraph quoted from the report in contradiction, taken from the Railway Chronicle of June 24th, accompanying this.

13 to 9, the dissentients being Lord G. Bentinck, Messrs. R. Spooner, Cayley, Hudson, W. Thompson, Hume, Disraeli, Glyn, and J. Wilson.

And next comes the short article from the Railway Chronicle.

The Secret Committee of the House of Commons on the late *commercial distress*, have just published their first report; and we congratulate the railway interest on the important fact, that notwithstanding the great outcry which was raised, imputing a large share of that distress to the railway expenditure, the committee have affirmed the contrary to be the case, by a majority of 9 to 6, in the following paragraph:

"That if railways had caused the commercial distress, it could only have been by their absorbing part of the capital usually devoted to manufacturing and commercial production, which must probably have led to a diminished supply of goods, and to a rise in their price, which symptom *failed to exhibit itself*, notwithstanding a scanty supply of raw materials. Neither did the rate of interest increase until the bank of England commenced its course of restriction early in 1847, to meet the drain of bullion for the payment of foreign corn; while, in contradiction to the hypothesis that railway investments caused the scarcity of money in 1847, there is this remarkable fact, that *the rate of interest in the discount market is at this moment only about three per cent., in spite of railway calls being as large as ever.*"

This declaration is so confirmatory of our previous conviction on the subject, that we think it desirable to publish the names of the honorable members who formed the majority, viz: Mr. Chancellor of the Exchequor, Sir R. Peel, Messrs. T. Baring, Cobden, Becket, Labouchere, J. L. Ricardo, Thornley and Home Drummond. We may add that all the witnesses examined by the committee agree in designating the famine of 1846 as the primary cause of the late convulsions.

And last, though by no means least reliable, and important, we give the remarks of the veteran Herapath, who never flatters, nor spares, to please.—He says:

We some time ago stated, that this committe had come to a division to uphold the Peel bill of 1844 by a considerable majority. The report of the committee is just out proving that statement.

Our reason for adverting to this matter now is, however, for a different purpose. Evidence, it appears, has been given by various witnesses, which has induced the committee to report that "the failure of the potatoe crop in 1846, and the necessity of providing the means of payment in 1847, for the large importation of corn; the deficient supply of cotton: the diversion of capital from its ordinary employment in commercial transactions to the construction of railways; the undue extension of credit, especially in our transactions with the east; and the exaggerated expectations of enlarged trade, have contributed, in different degrees, in different parts of the country, to the same result"—the panic.

That the failure of the potatoe crop was a and disaster, and brought considerable distress upon us, there can be no doubt. The high price of cotton, the large sums of money sent abroad for corn, not from any deficien in our own crops, as was then asserted, and as has been since proved, but from a conspiracy against the public by certain large corn dealers and speculators, was another reason which tended to produce a tightness of money. A third was the wild and random extension of credit. But here, too, subsequent events have shown that this was not all due to over trading, but to the bolstering up, by reckless conduct, borrowing and other means, of certain houses, which ought many years before to have stopped. It is, however, not true that the railways had any material effect in producing the panic. Such, indeed, was the opinion of one of the committee, Mr. Cayley, who, in the draft of resolutions, containing some very just and sound observations, proposed—

"That if railways had caused the commercial distress, it could only have been by their absorbing part of the capital usually devoted to manufacturing and commercial production, which must probably have led to a diminished supply of goods, and to a rise in their price, which symptom failed to exhibit itself, notwithstanding a scanty supply of raw materials. Neither did the rate of interest increase until the bank of England commenced its course of restriction early in 1847 to meet the drain of bullion for the payment of foreign corn. Whilst, in contradiction to the hypothesis that railway investments caused the scarcity of money in 1847, there is this remarkable fact, that the rate of interest in the discount market is at this moment only about 3 per cent., in spite of railway calls being as large as ever."

We do not deny that the inconsiderate contracts entered into by railway boards during 1846 and the early part of 1847, had an influence in embarrassing their shareholders, encumbered as they were at the time with the difficulties of getting in money on account of the panic, and the fears of those that had money to part with it. There was at that time, as is well known, large sums abstracted from circulation by a number of persons, whose fears absorbed their confidence, and this, with the very limited circulation that we have in proportion to our commercial transactions, was a source of great inconvenience to the country. The numerous calls coming in at the time doubtless increased those fears; and the desire to hoard for fear of a general bankruptcy did not at all tend to lessen them.—The operation of the railways was, however, a very secondary cause, if it was any cause at all, of the panic of 1847. With regard to railway property, we were then, and we are still, of the opinion, that, had the railways come to a proper understanding with each other to promote those railways first which were most wanted, it would have been very different with that property at this time. But each seemed to run heels over head to get what he could out of the public, and the consequence is, that many stupid and senseless things have been done, by which shareholders have been oppressed, and railway property much depreciated. At this time, indeed, there seems to be a mad haste to go on with works where an extension of time has been obtained. Some of the railways, with extensions for two years, are now striving heaven and earth to carry on works which there is no necessity for doing. The result will be, if the shareholders do not stop them, another panic. It is nothing but injudicious conduct which is now pressing so heavily on railway property. It is not the want of confidence in the property, but the want of confidence in the judgment, discretion and integrity of some of the directors, which is the bane of railways. There seems to be no depending on what many of them say. If they promise not to prosecute the works, and induce shareholders to turn their resources to other things, all at once they change their mind, and make calls which there is no expectation of, nor for which consequently, is any provision made. Shareholders know not, therefore, what to do, and will get out of property at any sacrifice, rather than hold it with a drawn sword suspended over their heads, ready to fall with every whim of the directors. So long as directors place shareholders in such a position, so long will they keep railway property at the low ebb in which it is, and probably depress it still more.

Timber Preserved by Payne's Process Rendered Incombustible.

The following account of an experiment of fire upon building materials, which had passed through Payne's process of preservation from decay, may be found worth the attention of many of our readers—especially of railroad companies, for bridges, depots, etc. We find it in Herapath's Railway Jounal for June 24th.

On Thursday we were present at an experiment tried at the works, Cannon row, to show the uninflammable properties of this process of preserving timber from decay.—For this purpose, two model houses were constructed, four feet square and six feet high, having a floor, staircase and a chimney.—One of these was constructed of unprepared, and the other of prepared wood. They were placed on the beach, and there was a breeze blowing from the water at the time. Seven pounds weight of shavings were placed in each house, and set on fire. In about five minutes the unprepared house was in flames, and burned with great fury, throwing out considerable heat. The fire in the prepared house was then on the decline, and gradually decreased until it went out. The unprepared house was consumed in less than twenty minutes. A similar quantity of shavings to the first was placed a second time in the prepared house, and set on fire, it burned out like the first, confining its effects to the lower story, without destroying any portion further than charing the surface in contact with the fire to the depth of about the eighth of an inch. The parts some distance from the fire presented an incrusted appearance on the surface, which, in some places was slightly charred. The result of the experiment appeared to be satisfactory. Those who are acquainted with the rapid and alarming effects

of fire on houses can appreciate the value of a process which, it is stated, not only preserves the timber of the house from decay and the ravages of insects, but, as far as the experiment was carried, possesses the property of preventing the frightful and lamentable consequences of fire, and that at a cost of 4d per cubic foot. We are informed that timber prepared by this process has been extensively employed in the houses of parliament, British museum, Hungerford and Battersea bridges, and on several railways.

Anthracite Coal in Locomotives.

The following article on this subject may be useful, as a reference, to some of our readers. It is from the London Mining Journal, accompanied with remarks by the editor of the *American* Mining Journal.

We can refer the gentlemen to a much more successful experiment in the use of anthracite coal in locomotives, by Ross Winans, Esq., of Baltimore, upon the Reading railroad. There are *four*, if not more, locomotives on that road, that use anthracite coal very successfully—if the reports of many interested parties may be relied on. We have for monthts been looking for a full report of their performance, that we may give publicity to it.

We publish below an article from the London Mining Journal, on recent experiments made in England, on the use of anthracite coal in locomotives and steam engines. These experiments seem to be but one more of the thousand evidences, which the last ten years' experience in Europe and in this country affords, that stone coal cannot be used to a good advantage in locomotives, neither is it as good as the bituminous coal, for the purposes of generating steam, under any circumstances. The best and most satisfactory experiments that have been made on coals, indicate that the best bituminous coals, like that of the Cumberland district, for instance, produces *twenty per cent.* more steam than the stone coal; and we have no doubt, when the Baltimore and Ohio canal is completed, so that the Cumberland coal can be delivered on the seaboard at about five dollars per ton, that it will for steam purposes, supercede almost entirely the hard coal now in use. The Cunard steamers now use the Cumberland coal, and this is one reason why they are more successful than the American steamers. It will be recollected that the steamer Washington, in making her first trip, was obliged to put back and exchange the hard coal she had on board, which burnt out her grates, for the best English bituminous coal, which is of about the same quality as that of the Cumberland district.

It is well known that the American Atlantic steamers have not been as successful as was expected, and we attribute the failure in part to the coal they make use of. We think they will be obliged to abandon the *penny wise and pound foolish system* of using hard coal because it can be had a little cheaper, and consume the bituminous coal, which has been so successfully used by the British steamers.

Sir: As anthracite coal, owing to its being free from smoke in combustion, is highly desirable as a fuel for the use of marine and locomotive engines, it has had, therefore, the attention of scientific men for several years;—but either their researches or inventions have proved a failure, or, if any has partially succeeded, it has been attended with additional care on the part of the consumer: when that is the case we often see really good inventions thrown aside, under the familiar term of 'failures.' The first locomotive engine manufactured with the view of burning anthracite fuel, was built by the Llanelly railway and dock company in 1842 and 1843, under the direction and superintendence of Mr. William Veran, a Cornish engineer, which turned out a complete failure. The engine was called the *Prince of Wales.* It was again rebuilt, and worked with coke for some time, until the coal owners in the Cwm Ammon and Swansea valley expressed a wish to have another trial of the anthracite coal; and showing to the directors the advantages arising therefrom to their traffic by an increased consumption—and, consequently an increase of tolls might be expected—the directors again boldly came forward, and offered their engine for alteration, (the same engine the *Prince of Wales*) and which at the time required extensive repairs. They then instructed Mr. William Stubbs, a north country engineer, to carry out his views in the alteration of the engine, so as to burn anthracite coal. After the necessary lapse of time, which was somewhat long, for the repairs and alterations, the Prince of Wales was again brought out as a stone coal engine; but after repeated unsuccessful trials with that coal, it was abandoned, and the Prince of Wales was again a coke engine. Sometime again elapsed, when the Llanelly railway and dock company had another locomotive engine requiring extensive boiler repairs. Permission was then given by the directors, and the alterations were made, under the direction of Mr. J. Rogers, a Welch engineer; but, like the previous experiments, it was again a failure, and the engine is now using coke. There is one observation I may here make, which may, in some measure, account for those failures—that, in making the alterations, the *engineer* had to construct the boiler, or fire place, in such way, that, should they not succeed in the use of stone coal, they would be able to burn coke. This, in my opinion, may be the principal reason of the whole of the failures; but that can only be decided when we have more knowledge on the subject than we at present possess. Mr. Veran's boiler was leaky and bad; the whole of the workmanship was of an inferior kind—locomotive building at that period being little understood in Wales—but he had great heating surface, and used a double fire—one in his tube, and one underneath his boiler outside. Stubb's plan I am not so well acquainted with: but I do not think it was entirely carried out; he had his fire in a longitudinal tube, the bottom of which was perforated with holes underneath the fire grates; the outer and inner tubes were connected with small tubes. The front of his fire was filled with holes in a similar manner to give a quantity of air for combustion.—Mr. Roger's plan was very similar to that of Mr. Stubb's—the difference consisting in the former having a square fire box, with similar holes front and back of the fire box.

This brings us up to the most recent experiments with anthracite in locomotives; but during the experiments with locomotives, there has been a more successful step taken with respect to the use of anthracite in permanent and marine engines. This was due to Mr. Kymer, of London, under the management and superintendence of Mr. Leighton—a very scientific and persevering gentleman.

Descriptions of Messrs. Kymer & Leighton's patent, and an account of the trial in one of her majesty's steam vessels, which failed, owing to the imperfect construction of some of the machinery of the fanning apparatus, was given in the Mining Journal at the period when it took place. Notwithstanding the many trials and failures which have been made, I think the object ought not to be abandoned; and when the South Wales railway company become more interested in this district, it is to be hoped they will use their influence in investigating the merits of anthracite.

A. Resident.

Llanelly, April 10.

Bridge Building.

We find the following article, on the strength of materials for railway bridges, in that excellent work, the Journal of the Franklin Institute, for July. It was first published in the Scottish Railway Gazette, and, as it may be useful to some of our readers, we give it entire.

Strength of Materials for Railway Bridges.—The president of the Royal Scottish Society of Arts, (G. Buchanan, Esq.,) at the request of the council, presented an important communication at their last meeting, entitled—"An Exposition on the Strength of Materials, particularly Cast Iron and Malleable Iron, and their application in the construction of railway bridges."

Mr. Buchanan commenced by stating, that he did not profess to communicate anything original, but would be happy if he could only draw from the stores of information which had of late years been accumulating on this subject under the hands of very eminent, scientific, and practical men, such leading facts and maxims as might prove a sure guide for our practice; and such truths, when they become known and established on the unerring grounds of experiment and calculation, could not, he thought, be too widely disseminated. The various strains might all be reduced to two kinds, according as the material is either distended or compressed by any force or pressure. From these two all others arise, and either consist or are compounded of them. The tensile strain is the simplest of all, depending neither on the peculiar form of the materials, nor even on the length, but only on a single element—namely, the section of fracture. This peculiarity of the tensile force was explained and illustrated. In regard to cast iron, the result of the extensive and interesting experiments of Messrs. Hodgkinson and Fairbairn was given; and it was found from the mean of 16 different trials of English, Welsh, and Scotch iron, both hot and

cold blast, that this material will sustain about 7½ tons per square inch before breaking, the weakest specimen being 6, and the strongest 9¾. The limit of fracture, however, can never be approached with safety, not even within a long distance, seeing that this material is liable to unseen imperfections, and above all, to snap in a moment, without distending itself, or giving any warning of danger. Malleable iron, again, is much superior in tensile strength, and, by its remarkable ductility, inspires confidence in a still higher degree; bears no less, at an average, by various experiments of Telford and Brown, than 27 tons—the weakest 24, and the strongest 29 tons; but, before the half of this load is applied, it begins to stretch, and continues stretching up to the limit of fracture; it is, therefore, not only three times stronger than cast iron, but may be safely loaded with five times the breaking weight, or about 8 or 9 tons. In regard to the strength of compression, this depends also, as long as the length is limited, on the same element—the section of fracture; but when a long rod or slender pillar is loaded or compressed, it is liable to bend, not for want of strength, but for want of stability, the least flexure turning it off its centre, and breaking it by lateral force—deranging entirely the simple law applicable to short lengths. In regard to cast iron, by far the most satisfactory experiments are those by Hodgkinson and Fairbairn. The mean result gives very nearly 50 tons on the square inch—the weakest 36½ tons, and the strongest 60 tons. It is thus six times stronger in compression than in distension; and hence it is peculiarly recommended for sustaining any superincumbent weight, as in the case of pillars and of bridges, provided the construction is such as to resolve the strain arising from the load into a longitudinal compression. This is often in our power by proper arrangements, chiefly giving a sufficient height and curvature to the arch; but in cases where, for the want of head-room, the arch is unduly flattened, or resolved into a straight beam or girder the danger is that we bring the tensile force into play, and then the use of cast iron is objectionable, or, at least, requires extreme caution. No direct experiments have been made on malleable iron of short lengths; but from some facts brought out by Mr. Hodgkinson, its strength appears much inferior to cast iron, chiefly from ductility, whereby it gives way much sooner under a load. It will bear 27 tons, probably much more, without fracture; but with 12 tons it yields to the load, contracts longitudinally, and swells out laterally; and this is another very important fact for our guidance in the use of those different materials. In regard to stone, experiments have been generally made on specimens rather too minute. Like cast iron, the crushing strength is superior to the tensile, and hence its adaptation for buildings, particularly bridges. Craigleith stone will bear 2½ tons on the inch, or upwards of 400 tons on the square foot—Aberdeen granite 600 tons. In regard to bricks, he had occasion to make experiments in relation to the great chimney of the Edinburgh gas works. It became matter of consideration, whether the ordinary brick could withstand the pressure of so lofty a column. Trials were, therefore, made with a powerful hydrostatic press, not on small specimens, but on the actual brick. The ordinary stock brick was found to bear 140 tons on the square foot, and the common fire brick 157 tons; but the brick of which the chimney is constructed, consisting of a mixture of fire-clay and iron stone, bore, a single brick on its bed, no less than 140 tons, equal to 400 tons on the square foot.

The effect of the transverse strain was then considered, and illustrated by various experiments and models. The strain is a compound of the tensile and compressive strain, the one part of a beam loaded in the middle compressed, and the other distended, and the beam itself becoming a lever, and acting often with enormous power against its own strength. Hence it became easy to calculate the strength, this being in every case proportional, in the first instance, to the area of the section of fracture, and this original element, modified by the length and depth of the beam, diminishing in exact proportion to the length, and increasing in proportion to the depth.

The transverse strain acting with such severe advantage against our materials, various methods have been contrived for eluding its effects; the effect of which was illustrated by experiments, and particularly the necessity in flat arches of having secure abutments to resist the horizontal thrust—and this was frequently accomplished, where there is sufficient head-room, by uniting the extremities of the arch by strong malleable iron rods, in the same manner as in the case of the roof; the feet of the rafters are united and prevented from spreading by the tie beams; and this is the principle, the securest of all, on which the great iron bridge at Newcastle, now in progress, is constructed—the object of which is to cross the river and valley of the Tyne, on the highest level of the railways on each side, so as to unite them in one uninterrupted line from London to Berwick, and unite the termini of the different railways, now separated three-quarters of a mile or more, into one grand central station, a little to the west of the ancient castle. The distance between this station and the present terminus of the York and Newcastle railway is 3,457 feet, consisting chiefly of the space occupied by the bed of the river Tyne, and the steep bank on each side, well known to travellers in descending from Gateshead Fell on the south, and Dean street on the north, both to be now superseded by the smooth and level surface of the railway, and by a turnpike road running on the same bridge directly under the line of rails. The steep banks on each side are spanned by stone arches of a very substantial character, the river and low banks by six metallic arches, all of the same dimensions and structure, resting on solid piers and lofty columns of masonry. In the bed of the river the piers are laid on very solid foundations of piles and planking, with concrete—many of the piles 40 feet in length, and driven to this depth through hard gravel and sand, till they reach a bed of freestone rock. Nasmyth's celebrated pile driver is in full operation here, and with wonderful effect, and has come most opportunely in aid of the work; driving night and day, at the rate of 60 or 70 strokes a minute, the pile heads often being set on fire by the rapidity and violence of the blows of the ram. Piers laid two feet below water mark, and raised about 100 feet to the springing of the arches. The arches consist each of four main ribs of cast iron, each in five segments, bolted together, and forming one entire arch, 125 feet span, and rising 17 feet 6 inches in the centre, and the level of the rails on the upper platform 108½ feet above the level of high water mark of the Tyne. Depth of rib 3 feet 9 inches on the springing, and 3 feet 6 inches at the crown, with flanges 12 inches broad, external ribs 2 inches thickness of metal, internal ribs 3 in. Total sectional area at the crown 644 square inches, which would bear with safety a load of 5,000 or 6,000 tons, and would form, with proper abutments, a strong arch in itself, but for the fullest security, and to prevent the possibility of inconvenience of risk from deflection or vibration, or otherwise, each rib is united at the springing by strong malleable iron bars, or ties, 7 inches broad and 1 inch deep, of the best scrap iron, and in all 24 in number. The railway is supported above the arch, and the roadway suspended from beneath, by hollow cast iron pillars 10 feet apart, and each 14 inches square, through which are passed strong malleable iron circular bars, binding the whole into one stiff and solid mass. The sectional area of the horizontal bars is 168 square inches, which would sustain upwards of 4,000 tons without breaking, and 1,500 tons with perfect safety, but the whole weight of the bridge will not exceed 700 tons, leaving 800 tons of surplus strength. The railway, which is at the summit level, runs on a level 4 feet above the crown of the arched rib, and is supported in the middle by hollow cast iron trough girders resting on the top of the pillars 10 feet apart, and united with longitudinal timbers laid with strong planking. The roadway runs nearly on a level with the malleable iron ties, leaving a space of about 20 feet clear head-room. In the whole of the work, the utmost pains have been bestowed on materials and workmanship, and in making everything complete, the surfaces, which abut together, being regularly planed or turned, as in machinery; and, from all the arrangements, the most successful results may be anticipated from this bridge. The cost of the iron work and roadway, by the estimates, comes to £112,000, and the contracts for the bridge and viaducts to above £300,000.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.

August 5, 1848—3m*

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelp'ia.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles,* and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen,* or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, Slabbing, Plaining, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at
39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales,* of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

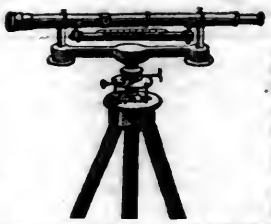
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

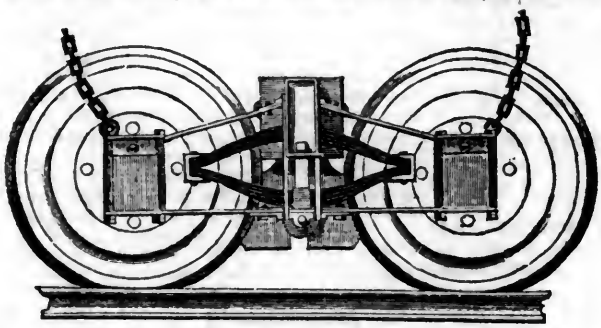
TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.
Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,

ja45 *Reading, Pa.*

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

1y25 Philadelphia, Pa.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this conntry, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE, 142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,

NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

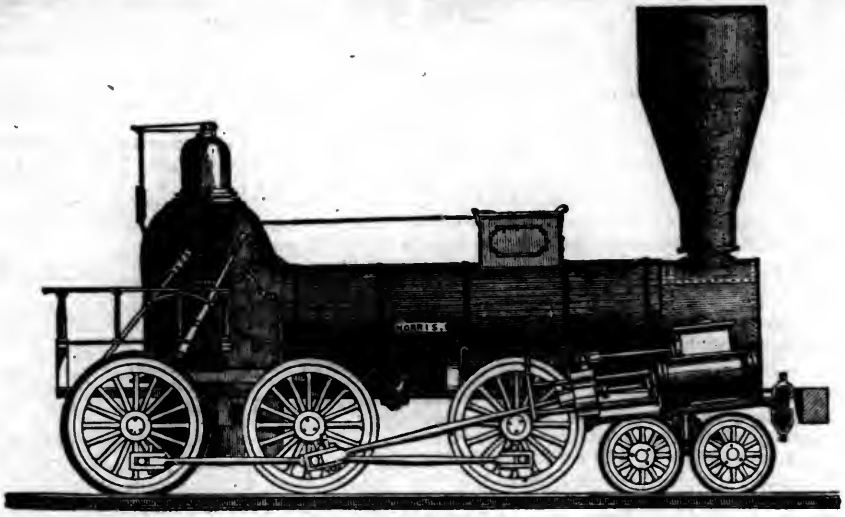
JAMES D. MOWRY,

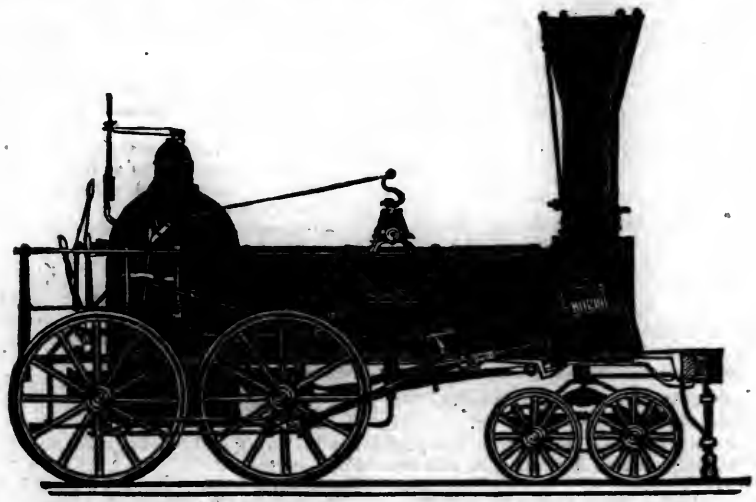
General Agent,

Norwich, Conn.,

Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.
BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.
Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Bratleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1v

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M.; and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the Boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.
Going east.		**1st train.**	**2d train.**	**3d train.**
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—




Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will precced each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.




Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.

For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.

For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4½ p.m.

From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.

From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:




Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6¼ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12¼ p.m. and 8 p.m.
Leaves York for Columbia at..1¼ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5¼ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7¼ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, conncting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5¼ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5¼ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAIL-Road. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6¼ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6¼ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y ..... S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAIL-ROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

t25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WEST-ern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

Miles.
Savannah to Macon—Central Railroad 190
Macon to Atlanta—Macon and Western.....101
Atlanta to Oothcaloga—Western and Atlaniic.. 80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....	0 20 pr. 100lbs.	35
Crockery, per cubic foot.....	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....	1 25	1 50
Ploughs, (small,) and Wheelbarrows.....	0 80	1 05
Salt, per Liverpool Sack.....	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

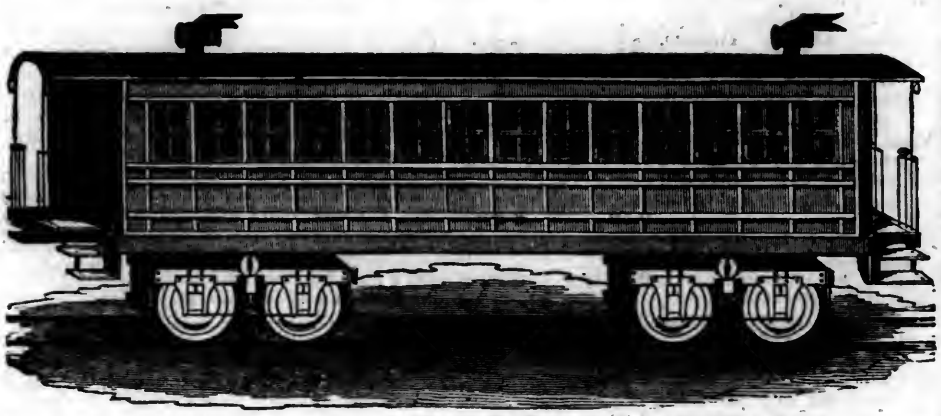
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

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OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
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One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
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One square "	2 50
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One square " "	1 00
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☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 35] SATURDAY, AUGUST 26, 1848. [WHOLE No. 646, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, August 26, 1848.

TO CONTRACTORS.

SEALED proposals will be received at the office of the Lafayette and Indianapolis Railroad Co. in Lafayette, until the 11th day of October next, for the Grading, Masonry and Bridging of that part of said road lying between the summit south of Durkee's Run, near Lafayette, and Lebanon, in Boone county, about 34 miles. Also, for the wooden superstructure for the same, in a distinct bid.

Plans and specifications will be exhibited by the engineer. By order of the Board.

ALBERT S. WHITE, Pres't.

Lafayette, Aug. 17, 1848. 6t35

Hartford and Providence Road.

The entire grading, piling, masonry and bridging between the eastern bank of Connecticut river and Willimantic, 29 miles, is, we understand, put under contract to Messrs. Boody, Ross & Dillon, of Springfield. The company will soon be prepared to contract for the building of a bridge over the Connecticut.

Cumberland Road.

In the Senate, August 10th, Mr. Hannegan, chairman of the committee on roads and canals, reported from the house a bill ceding to Indiana that part of the Cumberland road lying in said state, which was read the third time and passed.

This great road will therefore hereafter be subject to State legislation. The precise terms of the cession, the Indiana Sentinal, from which we quote, is not informed, but "hopes and expects they are such as will enable the State to transfer the road to companies, who will complete it in some economical and substantial manner, the expense to be remunerated by a levy of limited tolls for a series of years. In this way, and this only, can the road soon be completed."

Iron Trade.

The Liverpool correspondent of the Commercial List, in a letter dated July 28th, says: "The English iron market is now decidedly better, and all the makers refuse to sell at the late reduction in prices. It appears that they are fearful they will not be able to made the reduction in wages lately expected; if so, prices will again advance 20s. per ton, or they will cease their make.

"Scotch pig is at present selling below the price at which it can be manufactured to pay a profit.—The quotations are 42s. 6d. and 45s. per ton on the Clyde. At Liverpool

Merchant bar commands	£6 5 0
No 1 Scotch pig	2 15 0
No 1 Gartsherrie pig	2 17 6"

Canada Roads.

A line is now completed from LaPrairie, on the St. Lawrence river, to St. Johns. A continuation is in progress through Vermont, crossing the Hudson, river between Glen's Falls and Saratoga, and from thence on the west side of the river to Albany. Another route is from St. Johns to Burlington; thence crossing Vermont, through Montpelier, into New Hampshire, and through Plymouth, connecting with the Concord road—which is a continuation of the Boston and Lowell road—at Frankfort. Another route is at Vergennes, in Vermont, crossing Vermont, through Rutland and Charleston, into New Hampshire, connecting with the Fitchburg road in Boston.

Schuylkill Coal Trade.

The Philadelphia Commercial List says that the facilities for sending supplies of coal to market from this region are on the most ample scale. Both the canal and railroad are among the best in the world—and capable of carrying almost any amount that may be required. During the week ending the 10th inst., the quantity forwarded from this region was, by railroad, 34,593 17 tons, and by canal, 16,349 02 tons—together, 50,942 19; being considerably the largest quantity ever forwarded in any previous week.

During the week ending on Thursday, 17th, the supplies have been, by canal 13,725 11 tons, and by railroad 30,044 08—total, 43,769 19.

Pensylvania Central Railroad.

We learn from the Pittsburgh Gazette, that the subscription of 20,000 shares to the stock of this company, has been finally consummated by the commissioners of Allegheny county. In making the subscription, it is stipulated that "this subscription, together with the additional sum of one million of dollars, shall be expended in the construction of the road from Pittsburgh eastwardly to the Allegheny mountains." Other conditions, which were also accepted, require that the terminus of the road shall be within the city of Pittsburgh; and that the railroad company shall pay six per cent. interest on this subscription until the road is finished.

Canal Tolls.

The amount received for tolls on all the New York State canals during the second week in Aug., was....$70,805 00

Same period in 1817.... 91,081 65

Decrease.... 20,276 65

The aggregate amount received for tolls from the commencement of navigation to 14th of August, inclusive, was....$1,452,013 72

Same period in 1847.... 1,978,886 35

Decrease.... 526,872 63

Massachusetts Enterprise.

We copy from the Boston Courier the following interesting statistics:

"Fifty years since, the Middlesex canal, costing but half a million, was considered a vast undertaking, and required twenty years for its completion—but since June, 1846, we have commenced and nearly built up from a desert the new city of Lawrence, constructed new streets and factories at Manchester, Lowell, Biddeford, Blackstone, Lancaster, Worcester, Springfield and Fitchburg; the foundations of a new factory city at West Springfield; made a great aqueduct for Boston; contributed at least seven millions to the war loan; purchased a large part of the Central Michigan, and Wilmington, Mad River, Housatonic, Reading and other railroads out of the state; enlarged and improved all the great routes out of Boston; constructed new lines to Wareham and the Cape, Bridgewater, Milton, Fall River, Blackstone, Milford, Greenfield, Athol, Lawrence, Gloucester, Woburn and Medford, and many cross lines in our own state; and greatly advanced, or, finished the Northern Passumpsic, Vermont Central, Montreal, Vermont and Massachusetts, Cheshire, Rutlan'p

Sullivan, Ogdensburg and Kennebec railroads—in all nearly 800 miles of new track, opening to us the interior of New Hampshire, Maine, Vermont, northern New York, lakes Champlain and Ontario, and the Canadas.

"Subjoined is an estimate of the amount our citizens have embarked in a few leading enterprises—principally since the spring of 1846, viz:

In factories and manufacturing cities on the sites enumerated	$13,000,000
Purchase of railroads out of the state	8,000,000
Expansion of old lines of railroad	6,000,000
Construction of new railroads in Massachusetts	7,000,000
Construction of new lines out of the state	12,000,000
Boston aqueduct, estimated cost with reservoirs and dead interest	4,000,000
Stock taken in United States loan	7,000,000
Total	57,000,000

"Amount unpaid less that $7,000,000 July 20th, 1848. Estimated dividends to be received by citizens of Massachusetts, June to April, 1849.

From banks	$2,000,000
United States loans	400,000
Railroads	3,000,000
Factories	3,000,000
Accumulation saving banks	1,000,000
Total	10,000,000

"The valuation of the state for 1848, if the increase of value in Boston and its vicinity be any criterion, must exceed $450,000,000, and the annual accumulation can be little short of $22,000,000.

Susquehannah Extension.

The surveys of the routes for the contemplated extension of the Baltimore and Susquehannah railroad to a point at or near Harrisburg, have been completed. These surveys, it is stated, show three practicable routes on the west side of the Susquehannah, to terminate at the west end of the Harrisburg bridge. Two of these routes commence at York, and one at Wrightsville. The shortest of these routes would not exceed 25 miles, the maximum grade not more than 25 feet to the mile, and the cost would be about $600,000. The route on the east bank, by way of Wrightsville, Columbia, Marietta and Middletown, would make the distance from York to Harrisburg about 36 miles, but the cost of completing this route would only be some $300,000.

The details of the surveys, we understand, will soon be laid before the public, the route fixed upon, and subscription books opened.

Philadelphia and Charleston Steamers.

The Philadelphia Mercantile Advertiser of Saturday last has the following:

"The directors of the new steam ship line had a meeting in the commencement of this week, and decided upon a model for the purpose of building a vessel. It is their intention to have her in operation at the opening of navigation in the spring. We sincerely trust that this may be the case, and we do not doubt it from the well known character of the gentlemen composing the board. Nor can we leave this subject without compimentiug the proprietors of the "Columbus," for their perseverance and energy in surmounting the difficulties under which she appeared to labor at the commencement of the trips. As a sea vessel, we always expressed the opinion that the Columbus was unequalled; her steaming qualities were not then as fully developed as they are now, and for several trips past she has made as good time as any of the New York vessels, and been as regular in her arrival and departure from both this city and Charleston. We are anxious to see both lines in full and favorable operation; the increasing business of the whole south with this city fully justifies our business men in opening every avenue of communication as rapidly as possible.—We believe that there is ample room for a line of steamers between this city and Charaleston twice a week; and while our neighbors of New York are straining every nerve to retain their southern trade, as well as increase it, let not our merchants fail in their endeavors, but go on liberally, supporting and encouraging every effort which tends to increase the trade of our city. Philadelphia possesses every advantage that will enable the merchants of the south and west to purchase their goods in this market, and the more speedy our business men are in completing their central railroad and Charleston steamers, the more rapidly will our trade increase with every section of that great and growing country."

Cotton Statistics of Griffin.

Cotton forwarded from Griffin, from September 1st, 1847, to May 1st, 1848, according to previous reports 24,940

In May	1,724
In June	1,393
In July	1,412
	30,499

The above, says the Georgia Jeffersonian, of 10th inst., is a true statement of the amount of bales of cotton brought to Griffin by wagon, and shipped by railroad, since the 1st of Sept. last, taken from the books of the railroad office. "It will be recollected that we have no feeders from other places to swell our estimates, as there is no account taken of the cotton simply passing through the town either by wagon or the cars. There is still a month remaining to complete the year, and supposing the shipment in that month to be only 531 bales, and the balance remaining in the warehouses only equal to that of the same time last year, the total receipts at this place for the year ending 1st Sept. next will be 31,000 bales, and the balance remaining in the warehouses will be at least 500 bales over last year, in which case our receipts for the year will be 32,000 bales."

Croton Aqueduct Bridge.

The high bridge, or Croton aqueduct bridge, over the Harlem river, is a construction which, viewed as a whole, regarding its length, its volume, its tunnels, its capacious and massive walled reservoirs, and its numerous leaping fountains, has propably never been surpassed by any similar work in the world. The bridge is about fourteen hundred feet in length, and rests upon fifteen lofty and beautiful arches of solid stone masonry. The height, from the foundation of the piers supporting the arches, to the top of the bridge, is about fifty feet, the piers being sunk some thirty feet below high water mark. From the highwater level to the underside of the crown of the arch it is one hundred feet, a height required by act of the legislature, to allow the passage of all vessels which can navigate the Harlem river. Eight of the arches are eighty feet span, and seven are fifty feet span. The top of the bridge is twenty-one feet in width. The centre of the top work is several feet lower than the sides, making a capacious channel or sort of canal, in which two lines of large iron pipes are laid to carry the water across the bridge. One line of the pipes is completed, and the Croton now makes its entrance into New York city, over that magnificent bridge. The other line of pipes will soon be completed, after which they are to be covered by a layer of earth two or three feet in thickness, to protect them from the frost. The top of the bridge will then probably be finished off in a manner suitable for travel. The Croton aqueduct is 40 miles in length. The Romans had some aqueducts longer, but New York may well be proud of its great work.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 12th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, [Aug. 15.	7,541 14.	135,512 16
By Room Run "	3,779 04..	67,856 13
By Hazleton	3,491 00..	50,644 00
By Beaver Meadow	1,348 07..	45,054 07
By Spring Mountain	1,971 01..	41,242 00
By Buck Mountain	2,059 06..	36,573 16
By Cranberry Mines	....	7,880 00
White Haven	1,007 00..	4,932 16
Total	21,125 13.	389,687 08

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 17th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	12,875 02
" Pottsville	4,632 12
" Port Carbon	9,169 19
" Port Clinton	3,166 15
Total this week	30,044 08
Total this year	800,265 14

The amount of coal brought to market by the Schuylkill canal during the week ending the 17th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	9,168 09
" Schuylkill Haven	3,628 14
" Port Clinton	928 08
Total this week	13,725 11
Total this year	247,247 19

Recapitulation.—Total Shipments this Season.

By Lehigh companies	389,687 07
By Reading railroad	800,265 14
By Schuylkill canal	257,247 19
By Delaware and Hudson canal	210,249 00
Total	1,647,450 01

Atlantic and Pacific Railroad.

This subject has attracted much attention of late. We have had but one opinion of the importance and the *necessity* of a railroad to the Pacific, since we saw that *our government* were pursuing a course by which all Mexico—yes, *all*, ALL MEXICO—would be absorbed in a few years. The work of "*absorption*" is much *more than half* accomplished already—and much sooner than we anticipated—and the other half will absorb itself in a few years—or in other words, the seeds are already down, and have taken *deep root*, which will revolutionize and Anglicise the remaining part of Mexico—within a *quarter* of a century—therefore we must now look to the means of easy aud speedy access to the Pacific, and we are fully of the opinion expressed by Lieut. Naury, that "A railroad through the heart of the country to the most convenient point of our Pacific coast is greatly more in accordance with the true interests of the U. States, than any route by canal, or railroad, that can be constructed across the narrow neck of land between North and South America"—especially as neither work, at that point, would pass through the United States.

The subject is fully discussed by him in this article, and it is well worthy of record for future reference, therefore we give it at length.

National Observatory,
Washington, March 29, 1848.

Dear Sir: I have the pleasuae of sending you, as you requested I would do, a chart showing the relative distances to Monterey and the Columbia river from some of the principal points on the Atlantic coast. I have added such other information as, in my judgment, is calculated to throw light on the interesting subject, as to the best route across the country for reaching, by railroad, the Pacific coast of the United States.

I am clearly of the opinion that a railroad through the heart of the county, to the most convenient point of our Pacific coast, is greatly more in accordance with the true interests of the United States, than any route by canal or railroad that can be constructed across the narrow neck of land between North and South America.

A chief value of a railroad or canal consists in its collateral advantages, so to speak, by which I mean the advantages which the country and the people, in the vicinity of the improvement, derive from it; such as the increased value of land and property of various kinds.

The increased value which such property has derived from the railroads and canals in the United States, exceeds, I suppose, the original cost of the works themselves. This, therefore, may be considered a permanent value attached to property of our fellow citizens which no reverse of fortune, no enactment of laws, nothing but a destruction of the works themselves can ever destroy.

A canal between the two continents would not pass through the United States territory, and consequently the citizens of the United States would derive no such collateral advantages from it, or her statesmen the perogative of taxing such increased value for the revenues of the country; but they would derive them abundantly from a railroad running through the heart of the Union, and connecting its Atlantic with its Pacific ports.

In this fact is included one of the many reasons which induced me to favor a railroad across the country, in preference to a canal out of the country for connecting the two oceans.

The question, therefore, is: Where shall the railroad begin on the Atlantic, and where shall it end on the Pacific?

Unfortunately, the present state of topographical information as to the several routes that have been proposed for reaching the Pacific by railroad, is not sufficient to afford a satisfactory reply to this question. I propose to consider it therefore only in a geographical and commercial point of view, leaving the final decision of the question for hydrographers and engineers after they shall have made the necessary examinations and surveys.

If we continue to increase our tonnage for the next three or four years at the rate of increase for the last two or three, the shipping of the United States will then exceed that of Great Britain, and the commercial supremacy of the seas will be ours, so far, at least, as the fetching and carrying is concerned.

If you will examine the accompanying chart, you will observe that I have drawn, *geographically*, the dividing line of commerce between England and the United States.—Any point in this line is equidistant from us and from England; consequently England is nearer to all places, including the ports of Europe, the Mediterranean, and of Africa, north of the equator, which are to the east of that dividing line, and *geographically* speaking, therefore, can meet us on that side of it with advantage; whereas all places on this side of that line, including her American colonies, the West Indies, and the states of central and South America as far as the equator are, *geographically*, more favorably situated for commerce with the United States than with England.

Now it so happens that this dividing line crosses the equator at what may be considered the great thoroughfare of vessels trading to the south of it, whether they be English or American, or whether they be bound around Cape Horn or the Cape of Good Hope.—The winds are such as to make this the common and best place of crossing for all such vessels.

Consequently, *geographically* speaking the ports of Brazil, of the Pacific ocean, China, and the East Indies, are as convenient to the Atlantic States of the Union as they are to England; and the merchandise of the two countries may be said to meet there precisely on equal terms.

Hitherto, the great channels of trade have led to Europe; yet, notwithstanding that the position of England is much more central than that of the United States with regard to Europe, (the vessels of the former making in a week, voyages which it takes ours months to accomplish,) we have, under these disadvantages, never ceased to gain on our competitor, and are now about to pass her, with our ships, in the commercial race.

The coasts of Oregon and California are just beginning to feel the energy of American enterprise, and are fast filling up with our citizens. Where they go, the commerce will come. The peopeling of these coasts will greatly enlarge the commercial limits of the United States: extending them from lines into a greatly elongated ellipse with its conjugate centres, one on the Pacific, the other on the Atlantic.

Having determined what port on the Pacific offers the most advantages for the commercial focus there, it will then be easy to project the major axis of this new commercial curve; for the line across the country which joins these two centres, will show geographically, the best route for a railroad between these two oceans.

The shortest distance between two places that are not on the equator, or in the same longitude, is the arc of a great circle, included between them; and this arc appears on the chart as a curve. I have drawn such curves on the chart, and called them great circle routes, because they show the route by which a traveller may go from place to place by accomplishing the smallest number of miles possible, supposing he could follow a line through the air.

You will observe that the great circle, which shows the shortest navigable route between Chili, all the ports of Peru, Ecuador, central America and Mexico, passes so near to Monterey, that if a steamer bound from Chili to Shaughae, in China, were to pursue the shortest route which it is possible to go, she would make Cape St. Lucas, in Lower California, and might touch at San Diego, Monterey, or San Francisco, by going less than 100 miles out of her way.

But if the point of departure were Panama then it would be 1000 miles nearer to make the great circle via Calafornia, than to follow the straight compass course by way of the Sandwich Islands.

Monterey or San Francisco, therefore, may be regarded as the great half way house on the commercial road between Pacific America and the Indies; and this route as the commercial circle of the Pacific ocean.

It will be observed that Astoria, in Oregon, occupies by no means such a central position with regard to the commerce of the world.

The line, commencing on the Pacific coast midway between Monterey and the mouth of the Columbia river, and drawn to Philadelphia, I have called the dividing line of travel between Monterey and the mouth of the Columbia. It is so drawn through the country that any given point on it is equidistant from those two places, so that a traveller who starts from any point south of this line is nearer to Monterey; but if he starts from a point the north of it, he is nearer to the mouth of the Columbia.

Table of distances from the English Channel.

To Boston, (shortest navigable distance for steamers.....miles.	2,670
Boston, via Albany and the lakes, to Chicago.	1,000
Chicago, by an air line, to Columbia river....	1,650
Total.....	5,320
From English channel, via Philadelphia and Baltimore, Monterey.....	5,100
From English channel to Charleston, S. C., (by water).....	3,360
From Charleston to Memphis, (railroad).....	510
From Memphis to Monterey, (air line).....	1,500
Total.....	5,370

It thus appears that Monterey is quite as central to the European travel as is the mouth of the Columbia, with this advantage, however: the lakes are frozen up half the year, when the Columbia route is impassable; whereas if the travel from Eerope come as far south as Philadelphia, Monterey then is the most convenient port. In truth, Chicago is quite as near to Monterey as the mouth of the Columbia.

While Monterey is, therefore, altogether as convenient a halting place as the Columbia river for travellers from any part of Europe to China, it has decidedly the advantage with regard to the travel from three fourths of the States of the Union, from Brazil, the West Indies, and even from the Pacific ports of S. America.

Were a railroad constructed from Memphis to Monterey, passengers from Chili, Peru, etc., on arriving at Panama, would, instead of continuing on in the Pacific to California,

save two or three days by crossing over to Chagres, taking a steamer thence to New Orleans, and up the river to the Memphis and Monterey railroad, and so across the country.

For this reason, therefere, the route to China. via Charleston or New Orleans, to Memphis. and thence to Monterey, would, for all the travel to the south of us, be hundreds of miles nearer than the route up to Chicago and thence to the Columbia river; nearer for most of the States of the confederacy and as near for the rest.

The harbors of San Francisco and Monteray are good, and easy of ingress and egress. The mouth of the Columbia is difficult both of ingress and egress. In 1846, Lieut Howison, one of the most accomplished seamen in the navy, was wrecked in attempting to get to sea from that river. He chartered another vessel for himself and crew to get to Monterey, 600 miles; and though in sight of the open sea, and drawing but 8 feet of water, he was detained there 62 days, waiting for an opportunity to cross the bar. He was wrecked where the exploring expedition found water enough to float a 74.

Vessels in distress off the mouth of the Columbia river have been baffled in their attempts to enter, and finally, after sundry trials, have found themselves compelled to run down to the ports of California, where they are sure of getting an anchorage.

The railroad to the Pacific should terminate at that port which presents the most advantages for our future dock yard and great naval station on the Pacific. That port is not the Columbia river, for the reasons just stated. Moreover, the mouth of that river will be overlooked by the English, from the excellent ports of Vancouver's Island, and the Sraits of Fuca. While our crippled vessels should be standing off and on, waiting to get in, they would fall an easy prey to inferior British cruisers, which in safety could watch their movements from the Straits of Fuca.

Monterey and San Francisco are beyond the reach of such serveillance; moreover they are in a better climate, and are midway our line of Pacific coast. They are in a most commanding position. During the naval operations in the Pacific against Mexico, our men of war beat out of the harbor of San Francisco in a gale of wind, so easy is it of ingress and egress.

The harbors of California are convenient for, and even now visited by our whalemen. Columbia river is not. There is a fleet in the Pacific of 300 vessels, engaged in this business, manned by 6 or 8000 of the best seamen of America.

In money and in kind they expend, annually, among the islands and ports of the Pacific, not less than one million of dollars.—The facilities which a railroad to California would offer in enabling them to overhaul, refit and communicate with friends and owners in New England, would attract this whole fleet there; and this vast amount of money would be expended in our own country and among our own citizens, instead of being disbursed, broadcast, as it now is, over that wide ocean. As long as there are breakers and a bar at the mouth of the Columbia, there can be in that harbor no attraction for our whale ships.

The coast of California is a favorite place of resort for the whale. They come there to breed.

The chart has two small circles of a radius of 3000 miles each; one drawn from the mouth of the Columbia, as a centre, the other from Monterey. The latter, from its facilities of ingress and egress, is in a geographical position to command the trade with all places within these circles, except, perhaps, the ports of British and Russian America.—For six months in the year, the difficulties in crossing the Columbia would place these places nearer to the ports of California by days, if not by weeks and months.

The chart also exhibits the geographical dividing lines of travel and of commerce.—The broken line through the island of Japan shows the dividing line of travel from London by the overland route, to India, and from London through the United States, by railroad from Charleston via Memphis to Monterey. The nearest route to London, from all places to the east of this line, is through the United States; but from all places to the west of it, the nearest route is through the Red sea and across the isthmus of Suez. These lines, as before stated, are all drawn without regard to time. They are mere georaphical lines, intended to represent distance in *nautcal* miles. Were the railroad across the country completed, and the lines drawn with regard to time, they might probably be extended a thousand miles or two further to the westward; for much of the distance to be overcome by the overland route is by water, and there is much less railroad travelling by that route than there would be by a railroad across the United States.

A passenger can accomplish as many miles in two days by railroad as he can in a week by water.

The other broken line shows the dividing line of travel between London via the over land route, and this part of the country via the Atlantic and Pacific railroad.

The continuous, and most westerly line, shows the dividing line of commerce between England, on the one hand, and our Pacific ports on the other, supposing the English ships to pass, as they have to do, the Cape of Good Hope.

This line exhibits many interesting facts, consequences and significations. Among them, it shows that the United States are now in a position which will soon enable them, *geographically*, to command the trade of the entire east; and commercially speaking, our country is in the centre of the people of the earth, and occupies a position for trade and traffic with them which no nation that ever existed has held.

Hitherto in all parts of the world, except Europe and the West Indies, the ships of the two great competitors on the ocean have met on barely equal terms. An American and a British ship met in India, China, New Holland, the islands of the Pacific, or the ports of South America. One ship was owned in London or Liverpool, the other in some one of our Atlantic ports. To reach home, they both had to pursue the same route and sail the same number of knots. But now that Origon and California are *Americanized*, all of these ports are nearer; and the chief among them, at Bombay, Calcutta, Singapore, the ports of China, Japan, New Holland, Australia, Polynesia, and the islands of the east, many thousand miles nearer to the United States than they are to England.

Table of Distances by Sea.

	To England	To ports of California.
From Persian Gulf.... ...miles.	11,300	10,400
" Bombay.....	11,501	9,800
" Calcutta.....	12,200	9,300
" Singapore.....	12,300	7,400
" Canton.....	13,700	6,100
" Shanghae.....	14,400	5,400
" Jeddo.....	15,200	4,500
" New Guinea.....	14,000	6,000
" Northwest point of New Holland.....	11,800	7,800
" Northeast do.	13,500	6,900
" New Zealand.....	13,500	5,600

From Memphis, a certain point in the immense valley of the west, and one on the great natural and national highway from the gulf to the lakes, the distance via Panama and Sandwich Islands (the usual route) to China is 11,700 miles; but by the proposed railroad to Monterey and the great circle, thence to China, the distance is but 6,900 miles.

A railroad across the country in this direction would, therefore, it may be observed, shorten the present and nearest practicable route to China, near 5,000 miles; it would place us before the commercial marts of *six hundred* millions of people, and enable us, geographically, to command them. Open the needful channels, unbridle commerce, leave it to the guidance of free trade, and who shall tell the commercial destiny of this country.

Rightly and wisely profiting by the advantages which are now opening to us, how long will it be before our sturdy rival will cease to be regarded as such, and when we shall have no competitor for maratime supremacy among nations.

From Monterey to Shanghae is 5,400 miles—midway between the two, and right on the wayside, are the Fox and Eleoutian islands, with good harbors, where a depot of coal may be made for a line of steamers; for the establishment of which, I undrstand, Mr. King, the chairman of the committee of naval affairs, in the House of Representatives, is preparing a bill.

Coal has been found on the surface, at San Diego and San Francisco, and Vancouver's or Quadra islands. Formosa and the islands of Japan abound with the most excellent qualities of this mineral. Supposing the vessels to be put upon this line to perform not better than the Great Western, and that the railroad from Charleston on the Atlantic, be extended to Monterey, on the Pacific, you might then drink tea made in Charleston within the same month in which the leaf was gathered in China.

The passage from Sanghae, allowing a day for coaling at the Fox islands, can be

made in 26 days to Monterey, and thence to Charleston by railroad, at the English rate of 40 miles an hour, in less than three days.

Hydrographical surveys and topographical reconnoissances may show San Diego or San Francisco to be the best terminus for the great railway. I have spoken of Monterey merely from its *geographical* position. San Francisco is a better harbor, and has in its rear, a more fertile country. But whichever of the three be adopted, the selection will not alter the point I have been endeavoring to establish.

A railroad from Charleston to Tennessee is already completed. Memphis is above the yellow fever region of the Mississippi valley. It is on the great river, and in a central position. A road thence would cross the head waters of the Arkansas, the Rio Grande and the Colorado. It would facilitate the overland trade with Mexico, and perhaps be the principal channel of foreign commerce for her people.

Large amounts of bullion are annually shipped from western Mexico, in British ships of war, for England. Owing to the route, and the uncertainties as to the time when a vessel of war may come for it, it may be assumed that this bullion does not reach England for eight or ten months after it is taken from the mines; during all of which time it is of course idle. Moreover, it pays a freight of two per cent. to the British officer and Greenwich hospital for conveying it in one of her majesty's vessels. Now all this bullion would come, as fast as it is taken from the mines, over this road, and would perhaps be coined in our own mints instead of those of Europe.

This route, as compared with one to the Columbia river, is most convenient for a large portion of the citizens of Pennsylvania, all of Delaware, Maryland, Ohio, Indiana, Illinois, Missouri, and all of the States to the south of them; and, considering the present routes of travel, quite as convenient to the people of New England as is the proposed route to the Columbia.

Besides, this last will be obstructed by ice and snow in the winter; the other, never.—Therefore California offers the most convenient terminus for the commerce and business of all the states, and the most desirable one for the purposes of general government.

There is a line of steamers already in operation from Valparaiso, Lima, Guyaquil, and the intermediate ports to Panama.

Under Mr. King's bill of the last congress, contracts have been made for another line to connect with this, and to run to the mouth of Columbia, touching at Monterey or San Francisco. From Panama to China via Monterey, is 8,600 miles, and from Panama by water to Monterey, is 3,200 miles. Thus it will be observed that the steam communication has already been provided for more than one third of the distance from Panama to China.

A railroad to Monterey, and a line of steamers thence to China, would place our citizens only half the distance that they now are, and without such railroad must continue to be, from Japan and the Celestial Empire.

The most equitable location of a great national railway, to be constructed for the convenience of all the States, from the banks of the Mississippi to the shores of the Pacific, would be along the line which divides the United States territory west of the Mississippi into two equal parts. The main trunk would then be in the most favorable position for receiving lateral branches from all of the states hereafter to be formed out of that territory.—But the ports on the Pacific, and the charac ter of the route, do not admit of such a location.

I have endeavored, as you suggested, to determine the geographical centre of the present *States* of the confederacy.

By one method, Memphis is as near that centre as may be; by the other it falls in Kentucky.

A line drawn diagonally across the States, from the northeast corner of Maine to the southwest corner of Texas, intersects another from southern Florida to the northwest corner of Iowa, a few miles from Memphis; and Memphis is just about half way between the mouth of the Mississippi and the head of the lakes, counting from lake Michigan.

But if we take two other lines; one dividing the territory comprehended within the states from north to south, the other from east to west, they will cross each other in Kentuck, and about midway a line between Nashville and Louisville. There are the two geographical centres of the States of the Union.

Now, if we take a point about midway between Memphis and Louisville, we shall have what, for practical purposes, may be called the territorial centre of the States of the Union I have marked this point A on the chart. It is near the mouth of the Cumberland. The centre of population is about the same parallel, but considerably to the eastward.

The great circle from this territorial centre to San Francisco, crosses the Mississippi just above the mouth of the Ohio, and crosses the edge of the Kansas valley. The distance of San Francisco from the Mississippi at this point, is 1,460 *nautical*, or 1,760 statute miles.

Were the country equally favorable, this would certainly be the most convenient route for all the states. It will be the business of the topographer, the engineer and the hydrograyher on the Pacific, to determine the most feasible line and the precise location of this great national highway.

There is, however another light in which this subject should be considered. A railroad to the Pacific is eminently a military road—and in the selection of a route, and a terminus for it, an eye should be had to its bearings as well to the common defence as to the general welfare.

Vancouver's island abounds in excellent harbors. Coal of superior quality has recently been found there, cropping out in great quantities on the surface. The English steamers on that coast use it, and pronounce it excellent. The Cormorant procured it at 4s. per ton, and took specimens of it to England. It is so accessible that the Indians mine it, and deliver it on board the Hudson's Bay company's steamers at a mere nominal charge.

That island is in a position which enables the power that holds it to command the straits of Fuca and the mouth of the Columbia more effectually, even, than Cuba, in the hands of a rival, would control the mouths of the Mississippi. By treaty Vancouver's island belongs to the English. In view of these facts no one with a military eye in his head would think of fixing the terminus of the great national highway, through which we aim to control the trade of the east, under the very guns of our rival. Vancouver's island enables England to command both the straits of Fuca and the mouth of the Columbia.

The mouth of that river can never become a naval station of much importance to us. It is too near Vancouver's island, which is to be the Portsmouth of England in the Pacific.—Its approaches are exposed and difficult, its egress dangerous. It is too far from the ports of California, and the coast, to be defended.

San Francisco will probably be the centre of our naval operations there. It is in a central, and therefere a commanding position. It offers many facilities which Astoria does not. Suppose Cuba belonged to Great Britain, and we were just beginning with a system of national defences for our Atlantic coast; it would be quite as reasonable to expect our ships from Pensacolo to pass Havana and protect the coasts of New York, in a war with England, as it would be to expect them to come from the Columbia river, overlooked as it will be by the English from Vancouver's island, and give security to the ports and coasts of California.

Our Pacific coast is about 1000 miles in length. San Francisco is midway between its southern bountary and Vancouver's island, and, in a military point of view, is in a position to command 800 of the 1000 miles;—whereas, Puget's sound and Columbia river, owing to the close proximity of Vancouver's island and the dangerous bars of the river, are incapable of commanding so much as their three marine leagues each.

Respectfully, etc., M. F. Maury.

Hon. John C. Calhoun, *U. S. Senate.*

Comparative Value of the Gauges.

The following remarks on this subject, which still engrosses so much attention in England, are from the Railway Chronicle, and it may be useful to lay them before our readers.

After all that has been said on the question of relative resistance of trains on broad and narow gauges, the real merits of the system are to be decided on mercantile principles, even still more than on mechanical ones. Of the greater original first cost of a broad gauge railway no one entertains any doubt, neither does any one who knows the working of the lines practically entertain a doubt that the current cost of working it is greater, compared with the only standard by which it can be judged—namely, the narrow. The gross weight to be put in motion per passenger carried, and per ton of paying goods transported, is so much greater than on the narrow, that the result of a mercantile comparison is beyond all question in favor of the narrow.

These points have been so well brought out in a letter of Mr. Harding's to Mr. Creed

in 1846, that we think it instructive to reproduce the principal points of that letter at the present moment.

"There is one point, not the point at issue in the experiments, and therefore not referred to by Mr. Bidder, to which I take the liberty of drawing the attention of the directors of the London and Birmingham. It has, in my opinion, the most direct bearing on the practical value of the facts, in reference to the comparative power of engines (which had been tried on the two gauges) elicited in the late experiments, when the useful application of locomotive power to the daily traffic upon a line of railway is considered. It was a point also which I found, in the daily conduct of the traffic on the broad gauge railway continually forcing itself on the attention. I refer to the much greater gross weight which the broad gauge railway trains, whether for goods or passengers, are found to attain, as compared with trains on narrow gauge railways carrying the same useful or profitable load. To show what I mean, it is only necessary to give the following average weight of trains on different lines of railway. I extract the figures from the evidence of Mr. D. Gooch, the locomotive superintendent of the Great Western; they are those on which Mr. Gooch's arguments on comparative economy are based, to which I will presently refer.

	Broad gauge.	Narrow gauge.			
	Great Western.	Grand Junction.	London and Birmingham.	Birmingham and Gloucester.	London and South Western.
Average gross weiget of passenger traing in tons,—excluding engine and tender....	67	43	42	38	36
Average number of passengers at one time in the above trains.....	40*	50	85*	43	45

The average number of passengers is obtained in the case of the Great Western and London and Birmingham from the detailed statements given in to the commissioners. * The general fact indicated by the above figures may be checked by a consideration of the general position of the railways mentioned. * * As regards the goods traffic, the same general result proved conclusively at Gloucester, where goods are transferred from broad gauge wagons into narrow gauge wagons, and the broad gauge wagons, carrying identically the same goods as the narrow gauge wagons, are found on the average to weigh at least 35 per cent. more than the narrow gauge wagons which convey the same goods: this has been now tried for several months, and is always found to obtain. To apply this to the question of locomotive power:—We find the particular engine tried in the late experiment on the broad gauge to be, as Mr. Bidder proves, an engine of about 10 per cent. more power than the particular engine tested on the narrow gauge; but it seems from the figures I have quoted from Mr. Gooch, that the average gross train she will have in practice to draw will be 50 per cent. heavier on the broad gauge than on the narrow gauge, not because there are more people go by the trains, but on account of the construction of the vehicles on the broad gauge, and the impossibility of filling them, which is the case in the carriages of both gauges, but necessarily tells more in the weight of the train with the large carriages of the broad gauge. The additional power, therefore, in the broad gauge engine would thus be all absorbed, and more than absorbed, by the greater weight of its train. The useful and available power of the large engine would thus be actually less than that of the less powerful engine. The command of locomotive power, which depends on the excess of power as compared with the useful load of passengers, or whatever else it may consist of, will thus be greater on the narrow gauge even with an engine in itself 10 per cent less powerful than the broad gauge. And this is the point which the public and the companies have to look to, as it is this command of power which will affect the punctuality and despatch of travelling."

* Instead of 40 say 50; instead of 85 say 75, as these numbers will perhaps more truly represent the average numbers in the trains of these two railways one half year with another. At the time this report was written, there was a difficulty in obtaining the correct milage of trains and passengers, the evidence taken before the commissioners not being published—these corrections do not affect the argument.

Explosion of Steam Boilers.

We take the following report from the Journal of the Franklin Institute for June.

The Committee on Science and the Arts, constituted by the Franklin Institute of the State of Pennsylvania for the promotion of the mechanic arts, by whom were appointed a sub committee to examine into the cause of the explosion of a stationary engine in Dillwyn street, Philadelphia, on the 20th day of March, 1848,

REPORT,

That they examined the fragments of the boiler, and found that it had been cylindrical, 14 feet in length, and 18 inches in diameter, made of iron ⅛ inch thick, and apparently not of very good quality. The rupture had taken place nearly in the middle of its length and presented the appearance of a clean cut around the boiler, just at the edge of one of the sheets of which it was composed, and exactly along the line which must have been followed by the calking tool. There was no tearing of the body of the sheet, and no irregularity in the line of fracture, except for about ½ inch in length at the lowest part, where there were some slight irregularities, as though the iron had torn there, after the rest had given way. Upon a closer inspection the mark of the caulking tool was plainly visible, and it was seen to have cut into the iron, sometimes to a considerable depth. The committee have no doubt that this carelessness in caulking the boiler materially weakened it, and thus determined the line of the fracture. It is proper to remark that it was stated to the committee, that the cylinder was not constructed for a boiler, but had been used as a condenser, and was bought by its late proprietor at second hand, and by him applied as a boiler.

The boiler had been placed in the second story of a frame building on the east side of Dillwyn street, and in the rear of the lots attached to the houses on Third street, and was used by a Mr. Reeve, to drive a small engine for the purpose of cutting tobacco. The boiler lay east and west, slightly inclining downwards to the east, which was the fire end.—The fire way extending from the front backwards, beneath the boiler, and was then returned by an outside flue, which lay above the ordinary water level of the boiler. A blower was attached to the engine; it appeared to have been recently added, and gentlemen who were familiar with the premises asserted that there was nothing of the kind when the boiler was first erected. The chimney stack being destroyed, the committee could not determine whether any defect had existed in the draft.

The westward, or back part of the boiler, had passed through the front of the house, and struck the dwelling on the opposite side of Dillwyn street, driving in the front wall. The fire end of the boiler passed across the whole lot between it and the houses in Third street, a distance of 112 feet, and struck the edge of a door way, in an 18 inch wall which it destroyed. Both these projections indicate a great force of steam; and upon examination the committee found a distinctly marked water line, showing that the depth of water at the point of fracture was only about 3 inches. There were, however, no conclusive marks of high heat on the iron.

Although the thickness of the iron had been reduced by the cutting of the caulking tool, and although the iron did not appear to be of very good quality, yet the committee believe that it was capable, with proper care, of bearing with safely, any pressure necessary for the light work which the engine had to do. Assuming the iron to have been but 1-16th inch thick, and taking its tensile strength at 50,000 pounds per square inch, it would have been capable of resisting a strain in the direction in which fracture took place, of more than 45 atmospheres pressure.

It is little singular that the boiler should have given way in the direction in which, by theory, it is considerably the strongest. For a tearing strain in the direction of the axis of the boiler, the resistance would have been equivalent to but 25 atmospheres (447 lbs. per square inch,) if we take 50,000 lbs.

A very simple calculation will suffice to show that the pressure within the boiler at the moment of explosion was enormous. In fact, if we suppose the boiler lying quite horizontal, the projectile force was sufficient to carry the eastern fragment over 112 feet, while it fell 12 feet by the action of gravity, that is in 0·866 sec. The projectile force, therefore, gave to a mass of about 300 lbs., a velocity of 130 feet per second.

In the opinion of the committee, therefore, the explosion of this steam boiler was owing to an excessive pressure of steam, probably generated instantaneously by the admission

of water to overheated metal, and the line of fracture was determined by the weakening of the iron at the junction of two of the plates by the careless use of the caulking tool.

By order of the committee.

WILLIAM HAMILTON, Actuary.

Propellers for Vessels.

As early as 1768, the screw was used by *Paucton* for propelling vessels; and we find that since his day, several others have attempted to improve upon his plan, or introduce others. The following article from the London Athenaeum may be useful to some of our readers.

Mr. Cowper commenced by an illustration of the law of resistance to a body moving through water. A disk of tin was drawn up from the bottom of a jar of water by one weight hung over a pulley—the time being measured by 20 beats of a pendulum. It was then drawn up in 18 beats (*i.e. twice* the velocity) by *four* weights—showing the resistance to be as the square of the velocity.—The disadvantages of the common paddle wheel were pointed out, and the various contrivances to obviate them, in the inventions of Buchanan, Oldham, Morgan, Field, Galloway, etc. A general index was given of the various screw propellers of

Paucton	in 1768
Bramah	1795
Shorter	1802
Fulton	1802
Trevithick	1815
Cummerow	1828
Woodcroft	1832
Smith	1836
Ericsson	1836
Lowe	1838
Blaxland	1841
Buchanan	1841

The general principles of the propeller, and the effect of a variety of forms, were illustrated by causing the peopellers to travel along a horizontal wire (about 8 feet long,) by giving them a rapid rotation. Woodcroft's propeller was explained. It consists in making the screw with an *increasing pitch*—the term pitch meaning the distance between the threads of the screw. A screw of uniform pitch is an inclined *plane* wrapped round a cylinder. A screw of increasing pitch is an inclined *curve* wrapped round a cylinder. If the blades of the propeller are bent so as to be somewhat hollow, this would make an increasing pitch. The experiments proved that a small portion of a blade of uniform pitch did the duty—the rest of the blade merely following in the wake of the effective portion; but by making the blade with an increasing pitch, each increasing portion overtakes the disturbed water, and so becomes effective.—Accordingly, the model, with Woodcroft's increasing pitch, flew along the wire rapidly; but when it was reversed, it would scarcely move. On a large ship a similar experiment was tried—making a difference of 20 per ct. when the screw was reversed. The Great Britain was fitted with Woodcroft's screw on her last voyage, and there is little doubt propelled the vessel *faster* than the captain was aware. A large diagram was shown (the full size) of the screw fited to the Blenheim (74,) the Oak and the Termagrant (22 guns.) The screw consists of two blades. It is 16½ feet in diameter; the blade is 7 feet wide, and the twist or angle of the blade is such that when lying on the ground the upper edge would be 3 feet 4 inches high. The screw is let down through a water tight well at the stern of the vessel, and can be drawn up out of the water so as to give no impediment when the ship is sailing with a fair wind;—and yet the weight of the screw is 6½ tons, and the short iron shaft fixed in its centre 1½ ton, making together 8 tons. The screw is of gun metal, and worth about £650. H.M. yacht Fairy was fitted with a screw propeller of two blades, 5 feet 4 inches in diameter.—She has two engines of 64 horse power each, and her speed is 15½ miles per hour. The Sarah Sands (1300 tons) is one of the best examples of auxiliary steam power. She has two oscillating engines of 180 horse power, driving, by direct action, a Woodcroft screw of four blades and 14 feet diameter.—She made the passage to New York in 20 days; while the sailing packets took 40, and has just returned from New York in *fourteen days*, and has frequently made 11 miles in the hour. After the lecture, Mr. Cowper explained the various engines used for driving the screw, and exhibited a large model of improved gearing for those cases in which toothed wheels were employed. The "wave line" form of vessel recommended by Mr. Scott Russell was also demonstrated by experiment.

Hudson River Railroad.

ENGINEER DEPARTMENT,
New York, 31st May, 1848.

To the Board of Directors of the Hudson River Railroad Company:

GENTLEMEN—I have prepared the following report on the business prospects of the road.

This subject has been more or less discussed in former reports, and papers submitted to the public. It is not intended to repeat the same here, but to extend somewhat those investigations, and to examine by subsequent statistics the probability of realizing the estimates formerly made. The railroads of Massachusetts, and more particularly those that have their termination in the city of Boston, are regarded as affording the best means in this country of showing the practical working of such improvement, and therefore a table has been prepared exhibiting the details of those roads. A similar table was presented in my report of the 12th of January last, embracing two more roads, but less full in its items. In addition to the table, several comparative and aggregate statements have been prepared, showing very important and interesting particulars relating to the progress of railroad business.

Before presenting any reasoning as to their application to this road, the principal facts above alluded to will be presented. It may be remarked, however, that the average cost per mile of the railroads in the following table, is about the same as the estimated cost of the Hudson River railroad, and they have about the same average of double track that is proposed for this.

Statistics of Railroads in Massachusetts, Terminating in Boston.—Business of 1847.

Name of Road.	Passengers. Miles run by trains.	Total number carried.	Average number per mile.	Receipts per mile per train.	Gross receipts.	Freight. Miles run by trains.	Tons carried.	Average tons per train.	Receipts per mile per train.	Gross receipts.	Current Expenses. Freight & Pass'rs. Per mile.	Total.	Velocity per hr. stops included. Passengers.	Freight.	Cost of Road. Per mile.	Total.	Dividend per cent.	Length of Road. Double track.	Single track.	Branches.	Total length.	Miscellaneous receipts.
Boston and Lowell.....	164,705	484,683	59	$1 27	$209,611	70,749	281,441	100	Dolls. 3 32	$234,815	$1·076	$253,408	Miles. 22·1	12	$70,869	$1,956,719	8	Miles. 25·76	Miles. 67·927	Miles. 1·86	Miles. 27·62	$1,124
Boston and Maine.....	227,583	728,307	55	1 41	321,181	73,118	120,428	49	2 46	179,988	·680	205,026	20·	10	36,580	2,021,172	9	5·	25·25	9·65	82·58	10,339
Boston and Providence.	169,107	497,478	51	1 31	226,103	51,954	87,605	52	2 27	118,172	·748	165,363	25·	12	53,460	2,544,715	71	15·75	25·25	6·60	47·60	19,031
Boston and Worcester.	211,906	598,305	68	1 44	304,580	283,718	167,363	64	2 24	374,662	1·009	381,985	22·	9	70,162	4,113,609	10	44·62	14·	48·62	49,937
Boston and Fitchburg..	158,140	494,035	51	1 04	165,091	70,352	244,476	74	2 96	208,528	·706	161,433	20·	10	46,533	1,406,723	10	5·11	46·61	51·72	17,116
Boston and Old Colony.	105,105	389,994	47	1 18	124,775	27,944	42,707	27	1 50	41,527	·654	87,020	20·	12½	36,970	1,636,632	6½	37·26	4·850
Boston and Eastern....	203,3·2	892,896	63	1 68	343,372	33,804	41,047	34	1 49	50,455	·570	135,083	21·	15	50,580	2,937,206	8	16·	22·11	7·	58·08	31,013
Totals	4,075,698				1,694,713	495,284	1,101,422			1,208,147		1,389,308				18,616,776		112·24	199·16	59·08	370·48	129,399
Averages.....	236,677	398,111	76	2 12	502,322	513,772	274,691	55	1 53	785,345	·902	676,690	23·	10·	56,214	8,769,473	7·4	18·84	137·16		156·	37,668
Western R. R. (fr. Worcester to Albany).....								57	2 32		·778		21·4		52,166		8·43					

Summary of the Preceding Table.

Total receipts, $3,032,259, av. pr mile, $8,185
" expenses, 1,389,308, " 3,750

" net earnings, " $4,435
" No. of passengers carried, 4,075,698
Daily average, 13,021
Average receipt from each passenger, 41½ cts.
" No. of passengers per train, 56
" receipts for do. per mile do., $1 34
" cost of road per mile, $52,166
" dividends, 8 43 per cent.
Average cost per mile per train for passengers and freight, for running expenses, including maintenance of way, 77·8 cts.

Comparison.	1846.	1847.	Increase.
Tot. No. pass.,	4,135,080	4,078,698	30 pr ct.
Tot. receipts,	$2,448,247	3,032,259	23 8 "

	1846.	1847.	Decrease.
Current expenses per mile run,	83 4 cts.	77 8 cts.	5·6 cts.

The facts presented in the above table show very important results in several particulars; and I beg the indulgence of the board while I call attention to some of them:

First—The number of passengers carried.

This is in numbers equal to about five times the whole population of the State of Massachusetts. The population of the counties through which the seven roads pass, by the census of 1840, was 650,370, including 97,000 in the counties adjoining, in the States of New Hampshire and Rhode Island; or the number of passengers was six and a half times the total population of the counties traversed by the railroads. It is believed the statistics of travelling do not produce a higher ratio of passengers to adjacent population by any mode of conveyance. It may be inquired, what is the cause of this extraordinary amount of travelling? Probably the active habits of intercourse among those people.—But what has caused this habit? It does not appear to have existed to any considerable degree prior to the construction of those railroads. When the Worcester, Lowell and Providence railroads (three of those in the table) were projected, or in course of construction, the friends and promoters of those roads, after carefully investigating the subject of travelling at that time, and after making allowance for the probable increase that would be realized by opening these new facilities for the public accommodation, estimated the annual number of passengers that would be carried on the three roads at 141,440—which is less than *one eleventh* of the number actually carried the past year. The actual number carried before the railroads were constructed could not have been more than one-twentieth of the number in the table. The travelling habit has therefore been substantially created by the facilities the railroads have afforded.

In 1839 a committee of the Massachusetts legislature, having the subject of railroads under consideration, remark, "On every railway yet opened, the actual transportation has far exceeded the recorded estimates formed on that existing in any period previous to their construction, and has been constantly increasing."

The counties on the immediate borders of the Hudson river, including Renssalaer and Albany, and those south of them, and dependent on the river as a means of communication, including the cities of New York and Brooklyn, contained in 1840 a population of 757,697. They enjoy the best steamboat facilities for travelling, which by many persons is supposed to be superior to that of railroads. If so, then according to population of contiguous counties compared with the railroads in the preceding table, the annual number of passengers should be 6½ x 757,697, or 4,735,606. But the highest estimate of travelling on the Hudson river boats makes the annual number of passengers 1,500,000, or less than one third the ratio of that on the railroads given in the table. If the average of the railroads for the whole year, or winter and summer, be compared with the boats for the season of navigation, calling the season 230 days for the 1,500,000 passengers, then the ratio is one half as great by the boats as by the railroads. Now there are other sources besides the contiguous counties in both cases that have an important bearing on the amount of travelling. On the railroads, the travelling between New York and Boston, and between Boston and a large portion of New Hampshire, Vermont, Maine and Connecticut, passes over them. On the Hudson river, exclusive of those on the borders of the route under consideration, is concentrated the travelling of near one and a half millions in the State of New York, besides that from Vermont, Canada and the western States. It is the route of a large amount of fashionable travelling to Niagara Falls, to Saratoga and other watering places. As a route for general travelling, the Hudson river has a population and business, probably three times greater than is enjoyed by all the railroads in the table. So far, then, as population and business is regarded, the Hudson river boats, if they afford facilities for travelling equal to railroads, should transport annually about 5,000,000 of passengers, or at least three times as many as they do transport.

There is also the question of rate of fare, or charges, that influence travelling. This is about two and a half times greater on the railroads in the table than the average rates on the Hudson river boats.

It therefore appears, that leaving out of view the concentration of business from a distance, and comparing with population directly along the routes, and comparing the summer business on the boats with the average of the year, (winter and summer) on the railroads, the latter transport double the number of passengers at more than double the rate of fare, than is transported by the former.

It would be difficult to find more conclusive evidence of the superiority of railroad conveyance over that of the steamboats on the Hudson river. The distance travelled by each passenger is probably greater on the boats than on the railroads. The facilities for travelling from place to place, and for distances of five to fifty miles, by railroad, affording the opportunity of going and returning in a short time, greatly increases the number of travellers on them. The boats can only receive and discharge passengers at their regular landings, often ten or fifteen miles apart, which leaves a large amount of way travelling either not accommodated at all, or but partially accommodated, while the railroad would take them up and set them down at or near their own doors.

The time of running in each direction, and the comparatively slow speed of the boats, require so much time to make a journey and return, as to render the accommodation very indifferent. For instance, a traveller must consume from twelve to fourteen hours in the journey from Newburgh to Poughkeepsie and return, while two hours by the railroad would often give time to make the journey, transact his business, and be again at his usual occupation at home.

There are four steamboats per day, two up and two down, between Yonkers and New York, and also between Sing Sing and New York. Notwithstanding this accommodation from boats, there are from Sing Sing four daily stages, two out and two in, that run five miles over a hilly road to convey passengers to and from New York by the Harlem railroad, at double the charge by the boats.—From Yonkers six daily stages, three out and three in, run to the Harlem railroad, a distance of five miles, to obtain twelve miles by railroad to New York.

A little attention will show the great superiority of a railroad over the boats in accommodating the way travelling between the towns on the route. The influence of the railroad on the business between New York to the several towns on the route to Albany, Troy, and Saratoga, has been so much discussed in former reports, that it does not appear necessary to notice it further at this time. It will not be doubted, after an intelligent examination, that the way business will be doubled very soon after the railroad is opened, and the greatest part of it will be secured to the road.

My own views of the prosperity of the summer business for the Hudson River railroad have been based on the opinion, that this mode of conveying passengers was decidedly superior to that of steamboats on the best navigation. Every development gives strength to this opinion, and however slow the public mind is in appreciating the subject the demonstration only awaits the opening of a respectable portion of the road to dissipate all doubts, and show us that a double track is indispensable to accommodate the vast traffic that will offer. So far as this can be demonstrated by the working of existing railroads, as compared with the working of the steamboats on the Hudson, the question is settled, and there can be no doubt the additional travel the railroad will induce, will in two years after its opening be equal to the whole present travel by the boats. The railroad must take the best of this travel; and if the boats now average between 6 and 7000 per day, the railroad cannot perform its duty, and have a less amount including way and

through passengers. This is not more than would be due to it, leaving the boats as many as they now have, on the basis of the passenger business presented in the table: and when it is considered that the character of the road, and the magnitude of the trade, will permit the transportation at half the rate of fare charged on those roads, this estimate must be regarded as very moderate. From the great concentration, as before remarked, at Albany and Troy, the proportion of through travel will no doubt be greater on this road than on any other on this continent. Taking the lowest of the amounts above stated for daily travel, and computing the season to 220 working days, we have an aggregate of say 1,300,000 passengers. This is but little over half the number carried on some of the English railroads, that are but little longer, with competing lines to divide the traffic. Three tenths may be considered as through, and seven tenths way traffic. The latter averages between one quarter and one third the distance, or say 40 miles. With a double track and furniture complete, the road could in the same time transport 2,000,000 passengers.—It will be the interest of the company to have a double track laid as early as possible after the first is opened. That this will be necessary I do not entertain a doubt.

No great expectation has been indulged for summer freights, at the same time there are certain kinds of freight that will seek the railroad, especially that designed to supply the daily market of a great city, and will not regard cost so much as expedition. The reasons for this have been fully presented on former occasions, and will not be dwelt upon at this time.

In view of the considerations above presented, the following estimate of *summer trade* is given for the second year of its complete operation:

Summer Business.

300,000	through passengers, *a*	1·50,	$450,000
700,000	way "	50,	350,000
Freight,	. . . . .		50,000
Total receipts,	. . . .		$850,000

It is confidently believed that the above will be regarded a low estimate by any intelligent mind familiar with railroad travelling and with the circumstances of the route of this railroad. But it is said the steamboats will run for one shilling and defeat the railroad. On this point I am of the opinion that the railroad will do a handsome business even though the steamboats run for nothing. It has superior powers on this route for accommodating the passenger trade, and if well conducted it can command the best portion of the travelling business, notwithstanding anything that can be done with steamboats.

The Winter Business of the Railroad.

When the river is obstructed by ice there can be no question the whole traffic, in both freight and passengers, will be commanded by the railroad. On this point, it is only important to examine as to the probable amount. The average time the river is closed by ice is about 100 days, and considering the uncertainty that attends the closing and opening of navigation, the railroad may be considered as having the command of the main business from 1st of December to 31st of March, or four months of the year.

It has been stated on previous occasions, that the opening of facilities by good railroads would lead to a corresponding increase in the amount of winter business. The following statistical facts will show how far experience has supported this opinion.

Utica and Schenectady Railroad—78 *miles.*

1st Dec.	31st March.	Receipts. Freight & Freight.	passengers.
From 1844	to 1845,	$29,965	$86,771
" 1845	to 1846,	49,881	106,585
" 1846	to 1847,	91,304	148,049
" 1847	to 1848,	109,975	204,768

The increase in three years for freight and passengers together is 135 per cent. The increase in freight alone is 267 per cent. in three years.

Western Railroad, Albany to Worcester—156 *miles.*

		Total Receipts.
Dec. 1st, 1844 to	March 31, 1845,	$200,270
" 1847 to	" 1848,	362,128

Increase in three years, 80 per cent.

In my report of January, 1846, it was estimated the Western road would reach $220,000 for the winter months of that year. They proved to be about $265,000, (the exact returns in full not obtained.) In the prospectus, published by the commissioners in June of that year, it was estimated that the receipts for the four winter months on that road, for the year 1849, would be $330,000. It now appears they were $362,128 for the winter of 1847 and 1848, a season of no unusual press of trade. The business is increasing so rapidly on this road (Western) that a double track is found necessary for its accommodation, which is in course of construction; and it is expected 50 miles will be laid down this season. There can be no reasonable doubt the winter trade of this road will exceed $400,000 before the Hudson River railroad can be opened to Albany. The Western road is about the same length (a few miles longer) as the Hudson River railroad. What are the comparative advantages for trade?—First, as to contiguous population. Taking the entire population of Massachusetts from the west line of the State to the east line of Worcester county, (being 10 miles east of the termination of the road at Worcester,) adding twelve per cent. to the census of 1840, as the increase to 1845, is 262,228. Add to this, the counties of Columbia, Renssalaer and Albany, and the total of what may be regarded contiguous population, is 449,810. On the Hudson river line, taking only the river counties from Albany and Rensselaer south, less one sixth of Dutchess, one half of Orange and Putnam, three fifths of Westchester, and including the city of Brooklyn, the total contiguous population is 797,390, or nearly double that on the Western road.

It has been seen that the business of freight on the Utica and Schenectady railroad has increased for the same winter months 267 per cent. in three years, while the trade of that road has had but very imperfect means of reaching the ultimate market which it naturally seeks. This road and others west to Buffalo, are being put in much better condition for business; when this is done, and canal tolls on the railroad are removed, (as they doubtless will be soon) its trade for the same winter months will no doubt be doubled at least. A railroad will soon be opened to Whitehall, 75 miles north of Albany, which will connect with other northern railroads, and contribute a large addition to the present winter business that centres at Albany and Troy. The inevitable tendency of railroads is to diffuse business more equally through the year. Instead of a press of business at the close and opening of navigation, (when water borne freights are often equal to or above railroad freights,) considerations of capital employed, fresh assortment of goods, and the condition of markets, will send a large amount of traffic to the railroads. The general course of trade from the country north and west of Albany and Troy is to New York. This concentration can only be compared to the radii of a circle, gathering a vast trade as to its centre, at the northern depot of the Hudson River railroad, which it must enjoy two thirds of the year. In addition to the consideration of the vast trade that centres to it, the road will have at its northern terminus the political capital of the State, with a population of 60,000, and 40,000 more in its immediate vicinity, and the commercial capital, with a population of half a million, at its southern terminus, presenting unusual inducements for winter travelling.

The subject only needs examination, and it is confidently believed that any intelligent mind will, on investigation, at once pronounce public opinion far behind the enterprise in regard to the extent of its usefulness and productiveness.

After much consideration, I have prepared the following estimate of the gross receipts that may be expected the second year of its operation from the business of the road. In submitting it I am fully pursuaded of the concurrence of intelligent business men, who will take the pains to look into the vast sources of trade that must centre upon it.—The friends of this great enterprise have only to look to its construction on a scale commensurate with the extent and character of the business it is to accommodate.

Estimated gross receipts the second year the road is in complete operation from this city to Albany.

Summer Business.

300,000	through passengers, *a*	1·50,	$450,000
700,000	way "	*a* 50,	350,000
Freight,	. . . . .		50,000
			$850,000

Winter Business.

Gross amount of freight and passengers double that of the Western railroad for the four winter months ending 31st March last, 362,128×

2=724,256, say,		730,000
U. S. mail for the year, 1st class		40,000
		770,000
Total for the year,		1,220,000
Working expenses and maintenance of way,		819,000
Net earnings,		$810,000

Respectfully submitted,
JOHN B. JERVIS, Chief Engineer.

Summary of Curves and Straight Lines.

No. of curves	Length of curve of same deflection in miles.	Radii in feet.	Deflection in degrees.		Total deflection in degrees.		
2	·3249	1000	11°	42'			Peek-[skill [depot.
4	·5320	2000	80	29			
9	2·3442	2062	334	35			
1	0·3725	2175	119				
10	1·8036	2507	217	30			
8	1·1100	3000	112	59			
92	19·5662	3094	1776	30			
1	0·6640	3375	33				
4	0·8920	3570	75	35			
7	1·5230	3713	124	10			
3	0·3990	4000	30				
17	3·6200	4036	271	13			
30	6·7160	4125	495	29			
2	0·3570	4528	23	51			
10	2 9760	4641	194				
3	0·5700	5000	34	24			
14	2·5411	5156	149	7			
5	1·0930	5305	51	20			
2	0·2660	6000	13	15			
36	6·2715	6188	304	35			
1	0·3150	7000	13	37			
1	0·0200	7140		50			
1	0·1840	7426	18				
1	0·3835	7735	15				
2	0·4990	8000	18	49			
2	0·5451	8071	20	28			
7	1·8500	9282	60	20			
1	0·1850	10000	5	32			
3	0·4926	10313	14	27	4797	47	
379	58·4162	Miles curved line.					
	83·9918	Do, straight, (to fort Canal st.)					

Statement of Receipts and Expenditures of the Hudson River Railroad Company from March 1st, 1847, to May 31st, 1848.

RECEIPTS.*

Payment on instalments called for,	$1,370,180 00
In addition to the capital of $3,016,500, the company have authority to issue stock to the amount of $300,000, for the purpose of paying interest. Of this stock there has been issued at par 374 shares,	37,400 00
Amount received for interest on deposits with the N. Y. Life Insurance and Trust C., to November 1st, 1847,	†14,161 88
Total receipts,	$1,430,741 88

* Payments have been made in full at the office of the company on subscriptions to the amount of 470 shares, and in Poughkeepsie on the amount of over 500 shares; the sum received for the latter am't is not however included in the above statement of receipts, the payments having been made but recently, are not yet on the books of the company in New York.

† In addition to this item, interest is due the company on deposits with the Trust Company since 1st November last, estimated at $14,500.

EXPENDITURES.

Grading,	$330,861 37
Land for 46 miles of road,	282,839 44
Land for depots	128,181 51
Expenses, including office salaries, rent, salaries of engineers and land commissioners, and expenses connected with procuring land,	93,246 44
Iron,	53,673 03
Cross sleepers,	547 30
Interest payment of Nov., 1847,	25,249 13
" " May, 1848,	28,999 96
	943,598 08
Leaxing a balance on hand, May 31st, 1848, of	$487,143 80

JOHN M. HOPKINS, Secretary.

Table of grades on the Hudson River railroad between Thirty-second street, in the city of New York, and Albany.

Distance	Inclination per mile.	Ascent.	Descent.	Total ascent and descent.
Miles.	Feet.	Feet.	Feet.	Feet.
100·000	Level.			
9·204	0·271	2·5		2·5
5·993	0 500	3·		3·
1·759	1·136	2·		2·
2·454	2·445	6·		6·
1·	5·	5·		5·
2·250		22·5		
3·007			30·	
2·006	10·	20·		127·5
2·505			25·	
1·503		15·		
1·503			15·	
2·301	13·	30·		30·
2·240	13·160		30·	30·
0·504	15.	7·5		7·5
138·450		113·5	100·	213·5
3·958	Distance from 60th street to the foot of Canal street, through which the grades are adjusted to the corporation regulations.			
142·408	Total distance from Greenbush (Albany,) to the foot of Canal street, New York.			

Explosion of the Locomotive Engineer, on the Reading Railroad.

From the Journal of the Franklin Institute.

The "Engineer" engine, belonging to the repairing department, started early on Monday morning, May 1st, from Pottstown, with a train of cars loaded with materials for distribution upon the line. When she left Pottstown, she was in charge of the fireman of the "Rocket" engine, named Christopher Gaffney, who proceeded as far as Reading, where the regular engineer of the Rocket, Wm. Nagle, was waiting to take charge of her. The reason why the fireman had charge of her from Pottstown to Reading, was, that Nagle, the regular engineer, had his family residing in Reading, and was in the habit of visiting them almost every Saturday evening, and spending Sunday with them, and on Monday morning would take charge of his engine as she passed Reading, as was the case on the morning of the accident.

Gaffney was considered a good man, and had frequently run engines for a week at a time, when anything occurred to make an extra engine necessary in that department.

The reasons why the engineers were changed, are simply these. The Rocket engine, of which Wm. Nagle was the engineer, required some repairing to be done to her.—She was taken into the shop under the direction of Wm. Sessford, engineer of the Engineer engine, who was considered a better mechanic, and had been in the habit of attending to all repairs of macninery in that department, although he was not considered a better engineer. While Sessford attended to the repairs of the Rocket, Nagle was transferred to the Engineer engine, who had frequently run her, and other engines before, under similar circumstances.

When the Engineer left Pottstown, she had a train of eight 8-wheeled platform cars, lightly loaded with materials. She was blowing off freely, as was usually the case with her when starting, as she made steam fast while standing still. She was hot, but not dangerously so. She stopped several times between Pottstown and Reading, to unload materials, and when she arrived at Reading, she was not observed to blow off in a very remarkable manner, nor did she appear very hot.—She stopped at the Reading station, about 10 minutes to take in wood and water, and then proceeded without any cause of alarm, on her way up the line. When about half a mile above the station, the explosion took place. The cause of the explosion is attributed to the low state of water, when she arrived at the Reading station, which is supposed to have caused the crown sheet of the fire box to become very much heated, and the pressure upon it being so great, that it forced it to give way.

There are other reasons given, causing the explosion—such as imperfection of the work, etc., but the opinion of those with whom I had conversation about this matter, and who I consider more conversant on the subject, agree that it was owing to the low state of water, when she arrived at Reading; and I have no doubt, if the matter was properly investigated, it would prove similar to that of the Neversink.

The engine was running backward at the time, and her position to the train was, with her front or bumper attached to the cars,—placing the tank of the engine at the head of the train. Her safety valve was found after the explosion, set at 80 pounds to the square inch. The engine was not much shattered, but was thrown across the other track.

This, then, is all that I can give in regard to this dreadful calamity, as both the engineer and fireman were killed by the explosion, who alone could have furnished us with a correct account, had their lives been spared. But as it is, we must attribute it to the most reasonable cause, although something else might have been the cause of the explosion.

TO MACHINISTS & MANUFACTURERS.
The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*
ANDREW TAYLOR & CO.
August 5, 1848—3m*

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Maudslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

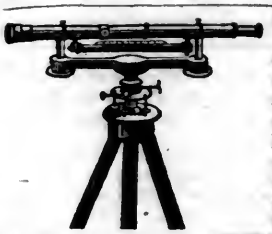
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

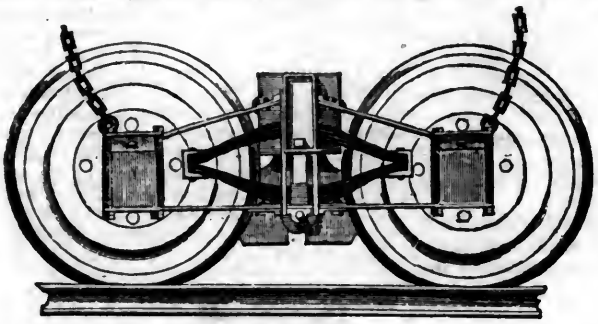
CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T.
Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the best and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equallzing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, filling together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

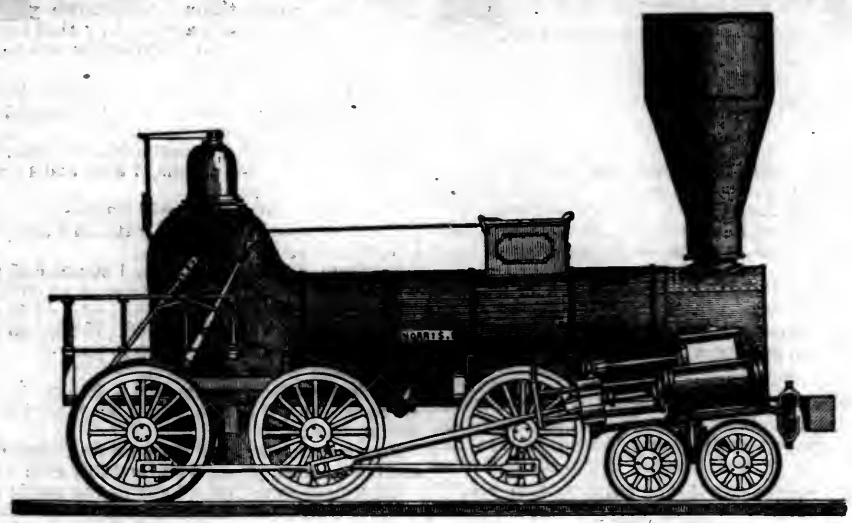
Furnished and fitted at short notice.

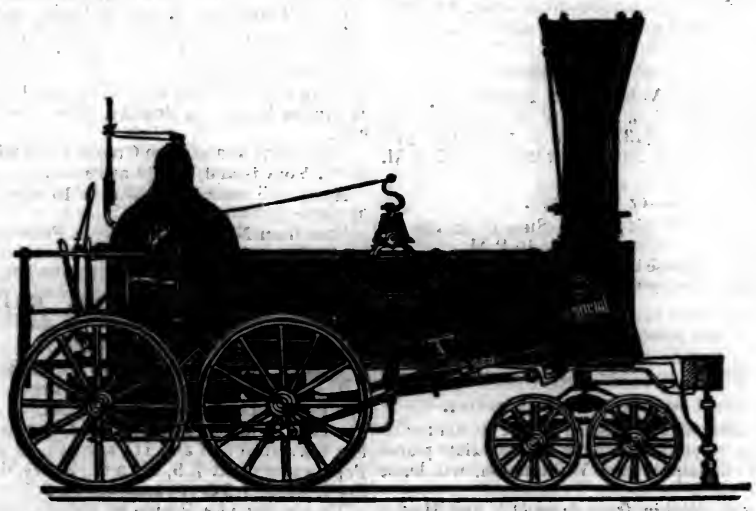
Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12f Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger



trains will leave daily, Sun-



days excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia. April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.



This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
.y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermediate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

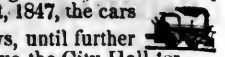
Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.	6 P.M.
Going east.		**1st train.**	**2d train.**	**3d train.**
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany....	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, JR.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—



Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

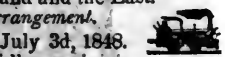
A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.



Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

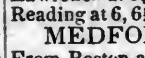
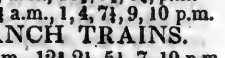
The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAIL-

road. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAILROAD. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Ja., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER,
17 Burling Slip, New York

1y10

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ¼ Flat Bars.
25 Tons of 2¼ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

—ALSO.—

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	.....	$125 00
One column	"	50 00
One square	"	15 00
One page per month	.....	20 00
One column	"	8 00
One square	"	2 50
One page, single insertion	.....	8 00
One columnn	" "	3 00
One square	" "	1 00
Professional notices per annum	.....	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,

D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 36] SATURDAY, SEPTEMBER 2, 1848. [WHOLE No. 647, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, September 2, 1848.

Lafayette and Indianapolis Railroad.

We desire to call the attention of contractors to the notice from this company on another page. This is the commencement of construction in that part of the State, but not the last by many a mile. That region of country will be chequered by railroads in a few years.

For the American Railroad Journal.

Pennsylvania Railroad.

In your notice of the Allegheny subscription, in the last number of the Journal, you state that the railroad company is to pay an interest on their subscription till the road is finished, which appears to lead to the conclusion that the directors have made a special bargain with this county, which other stockholders do not participate in. The company agree to pay to all stockholders six per cent. interest till the road is finished, and are now paying that interest to the city of Philadelphia, and the private holders. In this case, as a matter of convenience, the company pay the Allegheny coupons at their office in Philadelphia, and liquidate the interest on their stock held by that county by passing over the coupons when paid. The company propose to make the same arrangement with the city of Philadelphia.

☞

The notice referred to, by the writer of the above communication, was taken from the Pittsburg Gazette, and credited to that paper. We ought, however, to have added, that the company pay interest to *all* their shareholders, the same as to Allegheny county, but it did not occur to us at the moment of preparing the item.

ENGLISH RAILWAY STATISTICS.

We find in the Civil Engineer and Architects' Journal, for August, a very interesting article on the Railway Statistics of England for 1846 and 1847, which we shall give in our next. It shows the great and increasing benefits of railways to the people of cities and large towns, as well as to those remote from cities. They not only enable those pent up in large cities to take *fresh air*, but also to get good fresh meat, from the distance of *hundreds* of miles, in a few hours.

Camden and Amboy Railroad Co.

And their Address to the people of New Jersey.

We have felt frequently called upon, in times past, to speak plainly in relation to the management of this company, and therefore, when they put forth a reply, or justification of their course, to the people of New Jersey, and the public, we gave it a place in the Journal, without comment or accompaniment—though we had, at the time, an article in type—that our readers might form their own opinions of its merits. That address has now been before the public several weeks, published in numerous papers in this city and New Jersey, at the cost of *hundreds* of dollars—not published in a single paper, however, we hazard little in saying, *except this Journal*, without being paid for—and we shall now partially redeem our promise to call attention to some of its assertions, and assumptions.

It is certainly very true, as they say, that "the thousands who have sacrificed fortunes in schemes of public improvement, are rembered only, if at all, with pity;" and it is equally true, that "those who have been successful" in similar schemes, and have, *in their success*, and power, forgotten right, truth and justice towards those by whom they are supported, are regarded with any other than feelings of gratitude or respect—though we are not satisfied that "envy" predominates.

If those who enjoy the advantages of these works "had none of the risk of their construction, and none of the toil,"—they, or many of them, have had both *risk*, and *toil*, in the construction of *other* works, equally important, and that, too, where the *risk* and *toil* were far greater, and more hazardous, and therefore at least *they* have, if others have not, the right to complain, when they are charged *double* price for what they do, in their sphere, at reasonable rates. And if it is true, as the managers say, of those who complain, that "it costs nothing to find fault," it is equally true, it appears to us, that, however *well grounded* the complaints may be, in relation to them, it is quite *useless* to complain, as there is seldom any one present who has the ability, or disposition, to remove causes of complaint.

The writer of the address says the companies "might comprise their address in terms of exceeding brevity: *they might lay their hands upon their charters and say, these are the statutes of a sovereign State—we are her citizens—she knows how to preserve her laws inviolate—she never fallers in her duty to her sons.*"

No person denies to the State of New Jersey the ability to protect her citizens—but there are many who deny to a *few* of the citizens of New Jersey—under "*their charters*"—the right to extort from the citizens of other States, large amounts of money annually, which their charters expressly prohibit them from demanding.

There may possibly be a *lapse* in the wording of the charter for the railroad, by which legal ingenuity may make out a case—but there is not *one* disinterested person in a thousand, as we believe, who would not say, on reading the charter, and its amendments, that it was the *intention* of the legislature to fix the rate of passage at not to *exceed three* dollars, from city to city, and of freight at not to *exceed* 8 *cents per ton per mile* between the same points—and at corresponding rates for intermediate distances. Yet the company has, for years, disregarded the obvious intentions of the legislature, and the plain reading of the charter—charging such rates for freight as suited themselves; and disregarding all system, and uniformity of rates of fare on their roads—charging the *through* passenger, on one line, much higher per mile than the way passenger, and on a part of the other line, the *way* passenger higher than the through. And to another, and more *favored* class, issuing commutation tickets, which enables the holder to travel at little more than *half* what another, on the same seat with him, is charged on certain sections of the road. This reversing, on one road, the usual order of management; and this complicated, unequal and partial mode of charging passengers in the same car, for similar accommodation, tends to irritate the public mind, and cause a general reproach to be cast upon a system, the success of which depends upon public opinion, and legislative enactment.

It is very true that the railroad company shouldered—for the time being—a heavy load, in agreeing to build the canal; they did it, however, in accordance with the far reaching sagacity for which, at hat time, some of the prominent promoters of the

work were distinguished. It was plain to them that it would be policy to assume, and carry, even *that* load—*having* the control of the *railroad* communication—rather than to risk its being made by another company—as it was sure to be if the railroad company charged even their allowed 8 cents per ton per mile. It is therefore pretty evident that the *patriotism* of the company, in this matter, was much on a par with that of the parties alluded to in the address, when speaking of those who attempted to lay down rails on the old turnpike between Trenton and New Brunswick; nor was there much more patriotism in their offer "to *surrender all their privileges*, and convey the canal and railroad to the State" —in consequence of the "agitation among the people on the new route"—when it was *well known*, by those who made the offer, that "the legislature considered the State policy wisely settled," *not* to enter into the construction of railroads and canals.

In consequence of the demands of the people for a road from Trenton to New Brunswick, the joint companies agree to build it. And thus they open a second line between the two largest cities in the Union, but on this line they assume to charge *four* dollars—a rate of charge for which we find no authority in their charter—nor in the usages of American railroad management, where the best interests of the shareholders, and the business community, are apparently consulted. They say, in their address, that "the agitators of 1848 want a fourth *route;* and in *proportion to the outlay*, will, as heretofore, be the increase of price." Of course it would increase the price if they were to control it; not so, however, if it were constructed and managed by other parties.

This company cannot well avoid paying some deference to the "newspaper writers," even though they seem not to appreciate them very highly, judging from the following extract, in which they say: "the charges which have been made by newspaper writers against the joint companies, may be entitled to some notice, not out of respect to those who *write*, but with regard to the public who *read* them, and who, having no opportunity to judge of their truth or falsehood, are liable to be innocently misled.—The directors of the joint companies, therefore, upon their personal responsibility, submit to the stockholders and to the public, the following statements: The Camden and Amboy company charges, between Philadelphia and New York, in their first class cars, $3; and in their second class cars, $2 50, and run one line between the cities as low as $2 25, making the average price for through passengers, $2 58."

They also say in relation to the charges for freight that "by the tables it will be seen that the average price of *freight* between New York and Philadelphia by the Delaware and Raritan canal and Camden and Amboy railroad, is *one cent and twenty-nine hundredths of a cent, or a little more than one cent and one-quarter of a cent per ton per mile;* while the average freights on one hundred and seventeen railroads and branches in 20 different states in the Union, is seven cents and fifty-six hundredths of a cent per ton per mile, or more than six times higher than the freight on the canal and railroad; and, although it would seem that the freights on the railroad are nominally higher than on the canal, yet still it will be seen that they are not one half as high, in proportion to the value of the articles transported on these different routes belonging to the same companies."

The italics in this extract are ours, as we wish to call attention to the apparent disposition to throw "dust in the eyes" of "the public who read" the articles of the newspaper writers, but who, "having no opportunity to judge of their tuth or falsehood, are liable to be misled." The plan here resorted to of *averaging* the different rates of fare, of the different passengers, and of averaging the rates of freight on *coal, lime, iron, grain* and merchandise, carried on the canal, with what is carried on the railroad, and thus to show that their rates are only 1·29 cents per ton per mile, "while the *average* on 117 railroads and branches, in 20 different States in the Union, is *over seven and a half cents* per ton per mile," is worthy of its sonrce, and in accordance with the ingenuity of those who manage these companies. Upon this part of the address we shall only say that we have seen a list of the bills of one merchant in this city, numbering over *two hundred*, for one year, the freight paid on which amounted to about *twelve hundred* dollars, of which *nearly one-third was illegal*, being the *excess* over and above the "eight cents per ton per mile," allowed by their charter—or averaging nearly *twelve* cents per ton per mile—including "cooperage."

If other merchants have paid similar rates, it will require some ingenuity to convince them that they have paid only an average of 1·29 cents per ton per mile.

That many unnecessary, and even *unjust* complaints have been made against the companies we have no doubt; yet even *that* is no reason why the company should make illegal charges, and then attempt to cover them over, and mislead the people, by putting forth such statements as that in relation to the "average rates of freight," as compared with other railroads In this country. It is neither just nor dignified.

We have not attempted to follow the address carefully, and expose all its sophistries, prefering to touch upon the prominent points at this time, and leave the others for another day.

Locomotives for Inclined Planes.

Less than twenty years ago the ablest engineers of Europe were content to get a locomotive engine for the Liverpool and Manchester railroad which would haul after it four times its own weight upon a level railroad, at the rate of *ten miles an hour!* and that weight must *not exceed five tons* with its water aboard!! and at *that* period, grades exceeding 35 to 40 feet, were deemed *entirely* objectionable, and inadmissible, where locomotive power was to be used!!! But at this time grades of 60 to 80 feet are worked upon several of our most important railroads, by locomotives of *fifteen* to *twenty-five* tons weight, which haul over these grades ten to fifteen times their weight, and upon a level from seven hundred to a *thousand* tons with ease. This astonishing improvement, however, does not answer the requirements of the present age—*much more than this* must be accomplished to render railroads as useful as they are destined to be in this country, as well as in Europe. We do not mean by these remarks that it is important to haul greater loads on level roads than is now done—nor do we think it desirable on most of our American roads to haul, as a common thing, loads to exceed 300 to 400 tons, as engines that have *weight* to do more than that, are very destructive to the roads—but what we *do* want is a *plan* of locomotive, and railroad, which will enable an engine to haul its *ordinary* load on the more level portions of the road, over any grade ranging from *one hundred* to *two hundred and fifty* feet in the mile—should it be *necessary* to surmount such grades in carrying out any important line, either of main, or *branch* railroads. With such an improvement, it will readily be seen that the railroad system will become much more general and useful than it can possibly be as now used, as it will then be extended into regions of country now deemed entirely inaccessible to them. That such improvements will be made, and indeed, *are already made*, we have good reason to believe, as may be seen by reading an article in this days' Journal in relation to the engine of Mr. Sellers, of Cincinnati, which has been exhibited for some time past in New York, to which we would call the attention of engineers and railroad companies.

India Rubber Springs for Railroad Cars.

We have in several instances called attention to this subject, as we have deemed it one of interest to railroad companies, and of comfort to travellers;—and we are now able to give the opinions of several gentlemen who have had experience, and who are every way competent to speak of their value.

The following article, from the pen of Mr Hale, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.

June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars. D. N. PICKERING, Jr.,

Supt. Car Building B. &. W. R. R.

Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.

We cheerfully give place to the above opinions, and would ask attention to the advertisement of the New England Car Company, which will be found in this number of the Journal.

Railroad Receipts for 1847 and 1848.

There has been some apprehension, among some of those interested, that the railroad traffic for 1848 will not equal that of 1847—but we do not think there is just grounds for such apprehension. It is true that there may not be as great an increase on some roads as was anticipated, or hoped. Yet that there will be a large increase on the railroads of *this* and *other* countries, we have not a doubt.

On the Western Massachusetts road there has been a fair increase in passenger traffic, but a

falling off in freight, which gives them a total increase of only $20,230, for seven months, to 1st August, as compared with last year—but it will be found that other roads have increased in a much greater ratio upon the last year's business.

The Long Island road shows the following statement, viz:

Its receipts in the first seven months of 1847, were, for passengers...	$52,197 94		
" " freight.....	20,010 64		
		$72,208	55
1848, " passengers...	59,160 32		
" " freight.....	21,604 68		
		83,765	00
Showing an increase of 16 per cent., or		$11,556	45

And the New York and Erie railroad gives the following result, viz:

1847, to 1st Aug., passengers.	$51,074 39		
" " freight....	86,198 86		
		$137,273	25
1848, " passengers.	72,094 31		
" " freight....	96,789 15		
		168,883	46
Showing an increase of about 23 pr ct. or		$31,610	21

We also understand that on the South Carolina roads there has been a large increate in the traffic.

The business of the month of July on those roads was as follows, viz:

1847, passengers.....	$13,096 77		
freight and mails.....	17,833 49		
		$30,930	26
1848, passengers.....	17,031 07		
fretght and mails.....	26,933 52		
		43,964	59
Showing an increase of over 40 pr ct. or		$13,034	33

We hope soon to be able to give the statement for the eight months up to 1st inst., of the business on several of the southern roads, by way of showing that there is a steady and healthy gain in the receipts on the American as well as English railroads, this year as compared with last.

Correction of Rates of Fare.

To the Editor of the American Railroad Journal:

Sir: I write to call you attention to a strange error in your table of "Railroad Freight and Fares," in regard to one of the railroads in this State, from which it would appear that the rate per mile of fare on it is *less* than it is on any of the others, when in reality it is greater than the rates on all except one.

Your table says, "Richmond, Va., to Washington city, 133 miles," etc. Richmond, Va., to Washington city, is composed of 74 miles of railroad, and about 50 of steamboat navigation. The fare is $5 50 to Washington city, as you set it down, but take out the steamboat company's portion of it, (one-fourth) it gives a rate of 5·58 cents per mile for the railroad, instead of "4·13," the rate given in the table.

I observe also an error in the rate of fare per mile on the Richmond and Petersburg road. It is 4·44 cents per mile, and not "4·34," as stated in the table.

I remain yours respectfully,

H. D. Bird.

Petersburg, Va., August 11, 1848.

We give place to the above communication, and are obliged to the writer for the opportunity, because we desire to correct any error into which we may have fallen, as to distance, or *rates per mile*—with the remark that we considered the line from Washington to Richmond as one stage, or one payment for through passengers, as from Philadelphia to New York, by the railroad to South Amboy, and then by steamboat to New York—or from New York to Norwich, or Stonington, or Providence, or Fall River, by steamboat, and thence to Boston by railroad.—The object was to give the comparative rates of charge for relative distances, and if we have made an error in the distance from Washington to Richmond, of nine miles, it will vary the rate per mile from 4·13 to 4·43. If it was customary to pay a fare on the boat, and another on the railroad, we should have so given it, then each would have shown for itself; but it is not, and therefore we gave it as one stage.

The error in the rate of the Richmond and Petersburg railroad is typographical—it should be 4·44.

Sellers' Locomotive for Inclined Planes.

We accidentally witnessed some interesting experiments, when in New York a few days since, with a model locomotive engine, designed to show the practicability of taking any load over grades of *one* or *two hundred* feet to the mile, with a locomotive, which it will take on a level road; and thus, reduce immensely, the cost of constructing railroads. Various plans have been heretofore devised to effect this object, but none that have been deemed adequate to the object in view, as no one of them has been introduced into use.

This plan has been invented, and the model brought out, by *Mr. Geo. E. Sellers*, of Cincinnati, Ohio—formerly of this city, and at one time engaged in the manufacture of locomotives. The great, and vastly important objects designed, and believed to be attained by it, are to allow of the use of *lighter* engines upon railroads, which shall be *more powerful* on *high grades* than the heavy engine now is and thus to avoid, to a very considerable extent, the rapid destruction of railroads by heavy machinery.

It is not always quite safe, we are aware, to form opinions of machinery on a large scale, and to decide important questions of practical utility, upon the working of model machines; yet we were led to examine this machine, and its operations, with some care, as it moved backward and forward on the level portion of the road, laid down for the experiment, and upward and downward on the grade of 276 feet in the mile; and we were deeply impressed with the opinion that it is destined to exercise a powerful influence in aid of the *extension* of railroads in this country. The statement of one fact—*if it be a fact*, and we do not doubt in the least—will, we think, convince most persons that it will give a new impulse to, and rapid extension of, the railroad interest especially in this country. We were led, by its performance, to believe that a locomotive on this plan, upon a road built, as designed, for its use, with a middle rail on grades, and at the ordinary stopping places, will start a train of cars, and take them over grades of 100 to 200 feet in the mile, which it cannot haul, at a profitable speed, even if at all, *on a level road*. This is a bold and startling assertion; an assertion, however, which will be fully verified, if we may safely draw inferences from *these model facts* to practical machines.

The arrangement of the *additional* machinery of this model is such that, when put in operation, the adhesion upon the centre rail is in proportion to the *gravity of the entire train of cars*—instead of the *weight* of the *locomotive*; and the beauty of its operation is, that this application of increased power does not add to the wear or injury of the road:—as it is brought to bear on the *sides* of the *centre* rail, instead of on the top of the ordinary, rails. It has another important feature, of great value, in its ability to descend high grades with entire safety, and to arrest and reverse its movement, and ascend or descend at pleasure with its load, on any grade upon which it is designed to work.

We heard it suggested by a gentleman present that the surging of the engine sidewise, when in contact with the centre rail, would be likely to remove it from its position; but this objection has been guarded against by the inventor, as will be seen on reading the annexed more full description.

Mr. Sellers has also provided a "safety brake" for the cars, in case of their disconnection on high grades, which will effectually prevent accidents, as it arrests their descent before they acquire momentum. We saw the experiment tried with entire success on a grade of 276 feet in a mile; and the moment the car parted from the engine the brake fell, and clutched the *centre* rail, and held it until the engine backed down and took it again in tow.

Not satisfied with a siugle examination, we returned again the next day for the purpose of verifying, or discarding, our first impressions, and the result was a full confirmation of them.

There are probably some practical difficulties to be obviated, though we are unable to point them out—yet we have little fear but that the mind which has accomplished so much—or some other equally ingenious—will remove them.

We would call the attention of the South Carolina railroad company to this plan, as a means of working their inclined plane—and other railroad companies who have heavy planes, or grades, to overcome—as it may be well worth their attention to understand it before it passes into other hands.

Partial Description of Sellers' Locomotive.

The object of this invention is to obtain the requisite adhesion to enable the locomotive engine, with its train of cars, to ascend and descend grades much heavier than are now adopted, with safety and certainty; and thus to avoid expensive grading, and circuitous routes, for important lines; and also to enable the engine to employ the full force of the steam generated in the boiler, notwithstanding the reduced speed of the train whilst ascending heavy grades.

The first part of the invention consists in the addition to a locomotive—similar to those now in use, and of sufficient weight to draw their allotted loads upon the level road—of appliances for employing the gravitating force of the *train of cars*, either in ascending or descending heavy grades; and to produce the adhesion in such manner as that it will increase in proportion to the inclination of the grade, and the weight of the train. This is effected by connecting the train with horizontal gripping wheels on the locomotive, which embrace the *sides* of a *centre rail* which is located on that part of the road only where there are high grades, and at the usual stopping places where the side rails, from frequent oiling of the trains, are liable to be greasy.

The *gripping* wheels, on ascending or descending heavy grades, and in stopping or starting the trains, become *driving* wheels, by having their bearings in *levers* connected together by opposing *toggle joints*, which are operated upon by the connecting link of the train, so that in starting, or ascending a high grade, the gravity, or resistance of the train, opperates on one of the toggles, and thereby causes the wheels to grip the centre rail, with a force proportioned to the graviiating force to be overcome; and in descending heavy grades, the connecting link acts upon the other toggle, and produces a like effect. These gripping wheels are driven by an *auxiliary pair of cylinders*—placed below the ordinary cylinders—of such capacity as effectually to work off in conjunction with the ordinary cylinders, the steam generated in the boiler during the retarded motion of the train on the grade.

It is a fact, we believe, familiar to most engineers, that the greatest power is required in starting, and attaining full speed; and that a comparatively small power is necessary to maintain the speed when once attained, whether upon the level or on the grade—the *vis inertiæ* requiring to be overcome in both cases. It is an equally familiar fact that, on a heavy grade, greater power is required to draw a given load than on a level; and of course where the same driving wheels are used, the number of revolutions per minute, and the speed of the train, must be diminished in proportion to the increased resistance of the gravity of the train. This diminution in the speed of the locomotive, is found to be very prejudicial to the generation and advantageous consumption of steam, the slowness of the exhaust causing a diminished draft in the smoke pipe, and consequently a diminished generation of steam: while, on the other hand, it is found that engines working at a quick speed, with properly adjusted valves, will exert much more power than at slow speeds; whilst at the same time their rapid exhaust produces a powerful draft, highly favorable to the generation of an adequate quantity of steam.

By using horizontal driving wheels, acting upon a central rail, having a reduced diameter compared with the ordinary driving wheels, it is evident that their diminished leverage, enables the engines which drive them to perform the usual number of revolutions per minute, the speed of the train being diminished in proportion to the respective diameters of the two sets of driving wheels. Thus, if we suppose the ordinary drivers, and the horizontal ones to bear the proportions of three to one, their respective engines being of equal capacities, it is evident that at the same number of revolutions per minute one set of wheels will draw a load three times as great as the other, and at one third the speed.

The second part of the invention consists in connecting the levers of the gripping wheels with a steam or other spring, in such manner as that its elasticity shall cause the wheels to grip the central rail, and thus enable the locomotive to ascend and descend the grades without a train, or with a train which is too light to produce the requisite adhesion, or in the event of any accident which might prevent the gravitating force from effecting this end.

The third part relates to a self-acting brake which is intended to prevent accidents, in the event of the breaking or separating of the links by which the respective parts of the train are connected together.—This brake consists of a pair of "grippers," or "tongs,"—similar to those used on draw-benches—which are suspended over the central rail, underneath each car, and so connected, by a rod and chain, to the car in advance, as that, in the event of the disconnection of any car, they are let fall and *take hold upon the central rail*, gripping it with a force proportioned to the gravitating tendency of the car. Their action is so instantaneous that the car is stopped and held fast before it has acquired any momentum.

With regard to the adhesion of the locomotive, it will be seen from the foregoing description that the adhesion to the central rail is produced independently of the weight of the engine, and by the proper adjustment of the parts is rendered adequate to the full effective power of the steam, peyond which point an adhesion is entirely useless and prejudicial. If the driving wheels can be prevented from sliding or slipping on the rails the *desideratum* is obtained.

When this point is attained, or attempted to be attained, by increasing the weight of the locomotive, the wear and strain upon the road, and the engines themselves, as well as safety to the bridges and embankments, present an insurmountable barrier—or limit the load to be drawn in a single train: to say nothing of the amount of fuel and power expended in carrying back and forth an enormous and unproductive load, when the object can be attained by other means.

The position of the central rail, and the manner of gripping it, are worthy of consideration. The central rail is fastened to timbers laid upon the cross ties of the track, and is elevated somewhat above the side tracks; which is of advantage in case of snow. As the horizontal driving wheels act upon the opposite sides of the central rail, and as these sides are perpendicular, they are not liable to hold dust, water, ice or grease; objects of no trifling magnitude to regular, successful and profitable trips.—Ice that may be formed upon the rail, will, by the motion of the train, be thrown off and fall out of the way.

In short, it is thus proposed by this arrangement, to use engines of as light weight as will be sufficient to carry their trains upon the level parts, and lighter grades, of the roads; and to produce the requisite adhesion for starting and stopping the trains, and carrying them over the grades by means *independent of the weight of the locomotive*.

There is an arrangment for allowing the engine lateral play, on the side rails, while the gripping wheels are acting on the central rail, to prevent surging upon it, and forcing it from its place, and also to allow for any inequalities in the rails, which will remedy that difficulty. This is a very important part of the machine, and well arranged, but it cannot be well described here.

We are fully aware that we are exposing ourselves to remark, perhaps censure, perhaps *ridicule*, by giving these opinions, but we can only say in reply that the same things occurred on the first publication of this Journal, in January, 1832. It was then said by very wise and discrete men, that locomotive engines could only be used on grades of 35 to 40 feet per mile, and that railroads could never compete successfully with canals; yet we find that grades of over 80 feet are in common use, and that no new canals are built—and that in England several canals have been converted into railroads—and also that, in this country, they not only compete successfully with canals, but are destined to compete—*and successfully, too*—with the *best river navigation in the world*—and that too, under the advice and direction of one of the oldest, ablest, and most devoted *canal engineers* in the country.

We have witnessed, and closely observed, these changes in systems and opinions during the last sixteen years, and are prepared for, and have been looking for, some important and *striking improvements* in the machinery and management of railroads—by which *economy*, *safety* and *certainty* will be promoted, and that thereby a new impulse, and increased utility, will be given to the system.—Great powers of mind, and large amounts of capital, have been, for years, directed to this point, and we are quite sure that important results will follow—it may be immediately, or more remote, but it is sure to follow at an early day—and we have no hesitation to say that, *in our opinion*, Mr. Sellers has made an improvement which will be of vast utility—one which will contribute largely to the safety of passengers, and success of the proprietors of railroads, and that it deserves the early, candid and intelligent investigation of engineers and railroad managers of every part of the country where heavy grades are a prevention of, or obstruction to, railroads;—and when they shall have investigated the subject, and find that we have been misled, we shall be obliged to them to furnish us with the result of their observations for publication in the Journal, as *truth*, not pride of opinion, or private friendship, or personal interest, is its aim and object.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 19th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Aug. 22.	7,416 14.	142,729 09
By Room Run ..... "	3,845 12..	72,702 05
By Hazleton	1,936 00..	56,845 00
By Beaver Meadow	2,503 14..	49,358 02
By Spring Mountain	2,283 08..	43,525 08
By Buck Mountain	3,392 02..	38,965 18
By Cranberry Mines	....	7,880 00
White Haven	557 19..	5,490 15
Sugar Loaf	192 10..	192 18
Total	21,125 13.	389,687 08

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 24th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	10,698 02
" Pottsville	5,139 01
" Port Carbon	8,595 08
" Port Clinton	3,097 04
Total this week	27,530 15
Total this year	827,796 09

The amount of coal brought to market by the Schuylkill canal during the week ending the 24th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	8,746 10
" Schuylkill Haven	4,193 02
" Port Clinton	826 16
Total this week	13,766 08
Total this year	261,014 07

Recapitulation.—Total Shipments this Season.

By Lehigh companies	416,889 15
By Reading railroad	827,796 09
By Schuylkill canal	261,014 07
By Delaware and Hudson canal	244,649 00
Total	1,750,349 01

Ten Wheel Locomotives.—New York and Erie Railroad.

We referred, in a previous number, to a locomotive in the shop of Messrs. Rogers, Ketchum & Grosvenor, at Patterson, designed for this railroad—we afterwards witnessed its performance on its trial trip, on the 7th July—at Piermont—and should have sooner referred to it, but have waited for the details, which have but recently reached us. We now give them entire, as follows, viz:—

"The New York and Erie railroad company's locomotive, Susquehanna, or No. 12, has ten wheels, six of them drivers, and four in a truck.

The drivers are connected by rods in the usual manner on the outside, and have flanges on all their tires. The piston rods connect with inside cranks on the shaft of the middle drivers. This engine traverses the shortest curves with the freedom of an ordinary six wheeled engine. The cylinders are 17 inches diameter. The stroke 22 inches. Diameter of drivers 5 feet. The area of heating surface in fire box 67 square feet; in tubes 944 square feet. The whole weight of engine 58,000 pounds, or 26 gross tons *nearly* Weight of drivers 42,300 pounds, or 19 tons *nearly*. Weight on each driver 7,050 pounds, or 3 tons 3 cwt.

The trial trips on the 7th of July were made from

the pier at Piermont to Blauveltville, 4¼ miles. The time was noted between the 3d and 4th mile post. The rise of the grade in this mile is 60·72 feet, and the whole curvature 60¼ degrees.

Near midway of this mile is a curve of 4 degrees per 100 feet, or of a radius of 1432 feet.

This curve extends about 1000 feet upon a grade rising 15·05 feet in 1300 feet, or at the rate of 61·12 feet per mile.

PERFORMANCE JULY 7th, 1848.			Tons.
1st Trip.—Useful load	326,360 lbs., or	163	360-2000
Cars	161,180 "	80	1180-2000
Engine and tender	92,300 "	46	300-2000
Total	579,840 "	289	1840-2000

Time between the 3d and 4th mile posts 10 minutes, or at the rate of 6 miles per hour. Nearly stopped in curve for want of adhesion. Steam blowing off 95 pounds, by the balance.

2d Trip.			Tons.
Useful load	220,500 lbs., or	110	500-2000
Cars	115,130 "	57	1130-2000
Engine and tender	92,300 "	46	300-2000
Total	427,930 "	213	1930-2000

Time between the two mile posts 4 minutes, or 15 miles per hour.

3d Trip.			Tons.
Useful load	300,700 lbs., or	150	700-2000
Cars	152,580 "	76	580-2000
Engine and tender	92,300 "	46	300-2000
Total	545,580 "	272	1580-2000

Time between the 3d and 4th mile post 5¼ minutes, or at the rate of 10¼ miles per hour.

An examination of the foregoing results will show very little, if any, loss of power in this engine, arising from the peculiarity of its construction.

The theoretical power given out at the rails on the first trip is 10,066, without any correction for condensation, etc., etc.

The resistance due to the gravity alone, of the trains, is 6,712 pounds, which is equal to the addition of 939 136-2000 tons upon a level, reckoning the friction of the cars at 8 pounds per ton, gross. The gross load, then, was equivalent to 1,229 840-2000 tons upon a level, or 1,201 380-2000 tons, exclusive of the engine.

The resistance of 1,201 380-2000 tons caused by the friction of the carriages at 8 pounds per ton, gross, is 8,580 pounds.

The friction of the engine at 15 pounds per ton, gross, of itself, and 1 pound per ton of its load, would in this case be 1,460 pounds, making the total resistance 10,040 pounds, exclusive of the resistance of the curve.

The adhesion of the drivers to the rails must have been in this case no less than 23¼ per cent. of the insistent weight."

The plan of putting flanges upon all the drivers, was, we understand, recommended by Mr. John Brandt, superintendent of machinery on the road, and not altogether approved of by Mr. Rogers, the builder, who apprehended difficulty on the short curves. It has been found, however, that it apparently works as easy on the road as the engines with four drivers.

There is now good reason to believe, as we are informed, that this road will be opened to Binghampton by 1st January next—in accordance with the determination of the company—and they have ordered thirty new engines to be built, to be ready for use at or about that time.

It is pleasing to those who have long advocated the construction of railroads, to connect the city of New York with the interior and with other cities, to see the *rush* with which the work is pushed upon the three lines, now in progress, terminating in the city, viz:—the Erie, the Hudson River, and the New Haven. Those having them in charge seem to realize fully that much time has been lost, and that they must now make it up by their energy and perseverance. We may therefore anticipate the earliest possible completion, and the successful operation, of these roads, which will give new life and spirit to the business of New York—and thus obliterate, in a few years, all evidences of having *hesitated* in taking the lead in railroads—or of having faltered by the way after having commenced the race.

CENTRAL RAILROAD OF THE WEST.

We find in the American Mining Journal of 2d ult., a map showing the route of what it terms "the great central railroad through the States of Ohio, Indiana and Illinois, its important points of connection, and its position in reference to other railroads, and the leading lines of eastern communication."

When we looked upon the map for the line indicated, we supposed, as a matter of course, that it referred to *our* central line to Pittsburg, and thence west through Ohio, Indiana and Illinois, to St. Louis, which is of course *the* great central line, because it cuts those three noble States nearer the centre than any other line; but we found, on refering to the description, that it meant the line from Sandusky to Bellefontain, Indianapolis, Vandalia, and thence to St. Louis—a very good line indeed, though not very *central*, as far as Ohio is concerned. It is, indeed, a good route—and has the advantage of 100 miles of the Mad River railroad, now in use—and several other sections of the line, chartered and organised under, as we are informed by the following letter, efficient boards of directors, who will go through with what they have undertaken.

We hope they will, as a line of road through that region will add largely to its wealth and improvement.

As the public mind has been directed, in former numbers, to the great central railrond of the west, running through the centre of the States of Ohio, Indiana and Illinois, I may be permitted to inform your readers, east, that the right spirit prevails upon the whole line of this great enterprise, and that there remains no reasonable doubt but that the work will be constructed in a comparatively short period of time.

In my late Nos., I stated that the first section from Sandusky to Bellefontaine, over 100 miles, was in full operation. The next section from Bellefontaine to the Indiana State line, of about 60 miles, is under the management of the Bellefontaine and Indiana company, with Patrick G. Good as president, and an active and efficient directory.

The next section of about 80 miles, from the Ohio line to Indianapolis, the seat of government of Indiana, is in charge of the Indianapolis company. This company organised on the 3d instant, by electing Jeremiah Smith, Daniel Heastin, William M. Way, and Peter S. Miller, of Randolph county, Samuel P. Anthony, Daniel Kilgour, James L. Russy, and Jas. Truitt, of Delaware county; Allen Makepeace, Robert N. Williams, William Sparks, and James Gray, of Madison county; Thomas R. Noel, of Hamilton county; Robert R. Underhill and Oliver H. Smith, of Marion county, directors. Oliver H. Smith was unanimously elected president; John H. Cook, secretary; Austin Williams, treasurer; and Thomas A. Morris, engineer.

The next section of about 75 miles, from Indianapolis to Terre Haute, is in charge of an efficient company, with Chancy Rose at its head, as president, and an active board of directors. The section from Terre Haute to St. Louis is not yet organised, but will be, I learn, the ensuing winter, as the people of the line, as well as the business community at St. Louis, are fully aroused to the great importance of the work.

There no longer remains a doubt of the construction of this great enterprise, which is evidently to be the artery of the commerce and travel of the centre of this great valley. There will, of course, be many tributaries and connecting branches upon the whole line, one among the most important of which, it seems to me, must be a line from Pittsburg to Bellefontaine—and I respectfully call the attention of the people of Philadelphia and Pittsburg to the map with reference to this connection. The object of this article is not to extend my previous ones, as to the benefits to result from this great work, but merely to give the information contained in it, and to repeat my request that you will have the map engraved and published, as that will speak in more distinct language to the public than anything I could write. S.

Indianapolis, July 8th, 1848.

WHO WAS THE ORIGINATOR OF THE GREAT TUBE?

This, like many other successful enterprises, has several claimants. The following letter from Mr. Stephenson gives one side, and we may find that the question has two, perhaps more, sides.

The Inventor of the Tubular Bridges.—We are glad to find that the views on this subject which we stated last week are entirely confirmed by the following letter, in reply to one which had appeared in the *Manchester Guardian*, from Mr. Bateman, and which we inserted in our last:

Sir,—My attention having been drawn to a letter from Mr. Bateman, in your paper of last Saturday, on the subject of the tubular bridges at Conway and the Menai Straits, of which the merit is, without scruple, arrogated to Mr. Fairbairn, I beg to annex an extract from a letter to me from the latter gentleman, dated the 28th of October, 1846:

"I am much obliged by your letter of yesterday, and especially that part of it which relates to the original idea of the bridge. I am sure it was yours in every respect; but there is nothing new, or likely to turn out valuable, but there immediately start up a hundred claimants. We are all subject to this mental encroachment; but in your case everything is now clear. At all events, you may rest assured of my best efforts in supporting the claim to which you are so justly entitled."

This extract shows sufficiently Mr. Fairbairn's feeling at the time when his letter was written, which was subsequently to the passing of the act; and I will only add to it, that I have never attempted in any way to detract from the merits of any party connected

with the work, but have always freely acknowledged the valuable assistance which has been afforded to me during its progress by Mr. Fairbairn, Mr. Hodgkinson, and Mr. Clark; but that Mr. Fairbairn devised, or had charge of the entire construction, is simply a mis statement of facts. He, in common with the other two gentlemen named, aided me by his advice, and I acted upon it, or otherwise, as I thought proper. The company looked to me as alone responsible; and in my discretion, every other party who has been concerned in the progress of these bridges was engaged.

ROBT. STEPHENSON,
24 Great George street.

Westminster, May 21.

KIRK'S STEAM HAMMER.

We have more than once referred to this admirable machine. The following extract from the specification, gives an idea of the machine.

For an Improvement in the Steam Hammer; Lewis Kirk, Reading, Penn., April 3.

We make the following extract from the specification:—"The object of my invention is to apply the direct action of a steam piston, to operate the helve or lever of a hammer; and the nature of my invention consists in so combining a steam engine with the helve or lever of a hammer, and between the hammer and fulcrum, that when the steam is let in under the piston it shall lift up the hammer, and when the exhaust valve is opened, the piston will be at liberty to be carried down by the weight of the hammer —the steam and exhaust slide valves being operated each by a separate arm, on the shaft of the helve or lever, and the ends of these two arms being so connected with the valve rods, by slots, which permit the arms to move for some distance before they begin to act on the valves, so that the hammer shall nearly reach the end of its downward motion before the steam valve is opened, to admit steam to produce the next upward motion; and so of the exhaust valve during the upward motion of the hammer, the admission of steam to the the steam valve being governed by a slide valve, that commands a steam port in a plate immediately above the steam valve, and operated by hand, by means of which the attendant can start and stop the hammer at any time, and at any portion of its motion. And my invention also consists in combining with the hammer, thus operated, a slide plate with a port in it, under the steam valve, and a like plate under the exhaust valve; so that the attendant can, by sliding these plates, by a screw or lever, cause either the steam or exhaust valves to open or close, sooner or later, and thus regulate the length of stroke of the hammer."

Claim.—"What I claim as my invention, and desiro to secure by letters patent, is the arrangement of the vertical single acting steam engine, substantially as described, when this is combined with the helve or lever of the hammer, by means of the rocker on the cross-head, and the jointed links, substantially as described. I also claim the sliding plates, or regulating valves, below the steam and exhaust valves, in combination with the engine, combined with the hammer helve or lever, substantially as described, whereby the range of motion of the hammer can be increased or decreased by the attendant, at pleasure, as described."

Roebling's Patent Wire Ropes.

We find the following extract, from Mr. Roebling's specification for manufacturing *wire rope*, in the Journal of the Franklin Institute, for July. It has one peculiarity, not common to all specifications, viz:—its intelligibility; and we give it a place in the Journal as describing a process not generally understood —and of interest to many.

The patentee says: "The nature of my improvement consists, 1st, in the process of attaching to the ends of the single wires, which are drawn up for the formation of a rope or strand, equal weights, to be suspended freely over small sheaves or pulleys, for the support of which a frame is erected at the end af the rope walk. While thus all the wires are subject to a uniform tension, and can, at the same time, contract and expand with the changes of temperature, they may be twisted into a rope or strand, in the manner commonly employed in the manufacture of hemp ropes. Three or four strands thus formed may be again drawn up, tension plates attached to their ends, and the whole twisted into a thick rope. As all the wires and strands of a rope, made in this manner, will receive a uniform tension, the greatest strength will be obtained, which can be produced by the same amount of material, when united into a solid bar.

"2d. My second improvement is the method or methods I apply for preventing the twist of the fibres of the individual wires, during the process of 'laying.' This is effected by attaching to the end of each wire or strand, a piece of soft annealed wire, which, at the same time, supports the tension weight. The consequence is, that while the rope is twisted, the individual twist of the single wires will run into the annealed wires, and leave the elastic wires of the rope itself uninjured. Or, instead of using an annealed wire, I connect the end of each wire or strand, to a small swivel, which is held by a small line or rope, which passes over the pulley and supports the tension weight. The swivels, when lubricated with oil, will, by their own revolutions, allow the wires or strands to turn freely and easily.

"3d. Another part of my improvement consists in the construction of a wrapping machine, for the formation of a perfect and continuous wrapping."

Claim.—"What I claim as my original invention, and desire to secure by letters patent, is—

"1st. The process of giving to the wires and strands a uniform tension, by attaching them to equal weights, which are freely suspended over pulleys during the manufacture as above described.

"2d. The attaching of swivels, or of pieces of annealed wire, to the ends of the single wires, or to the several strands, during the manufacture of a rope, for the purpose of preventing the twist of the fibres, as above described.

"3d. The manner of constructing the wrapping machine, the head of the hull, around which the iron bar revolves by means of its collar, embracing the wire rope firmly and bearing against the wire, which is being wound upon it: said bar bearing against the face plate of the reel, for the purpose and in the manner herein shown, and the respective parts of which are combined and arranged as above described, so as to adapt it to the particular purpose of winding wire upon wire ropes."

Railroads in New Hampshire.

The good people of the Granite State are alive to the importance of railroads—and appear resolved to open several railroads from their own beautiful seaport to the interior of the State, as will be seen by the following notices from the Portsmouth Journal; and a writer in the same paper even has the boldness to talk about a communication with Montreal. We like his boldness, and hope he and others may thoroughly investigate the subject. It is a matter of great importance to Portsmouth to have an easy communication with the interior and northern part of the State—and with Montreal and the western lakes if possible. Why not Portsmouth as well as Boston and Portland? Keep it moving.

"*Portsmouth and Concord Railroad.*—Since the meeting of the stockholders in the Portsmouth and Concord railroad last week, great zeal has been manifested here to have the road opened at once to New Market, and the directors have made arrangements to commence laying the rails next week.

A large amount of assessments have been collected in this town within the week past, and the stockholders who have not yet been called upon, will add much to the same.

The road is nearly ready for the rails to be laid to Epping village, and some miles above that place are graded. A little exertion by our friends in the country will enable the directors to lay down the rail to Epping this fall. The bridges are building across the Merrimack Suncook and Soucook rivers, the grading is more than half done and rapidly progressing between Concord and Suncook village.

It is matter of great gratification that several of those who have never before paid, have now come forward and settled for their subscription."

"*Portsmouth and Dover Railroad.*—At a meeting of this corporation August 3d, inst., the committee appointed at a public meeting of the citizens of this town to procure surveys of the road, etc., were appointed managers of the corporation, and as such authorised to procure surveys and receive subscriptions for stock of the road.

The managers consist of the following gentlemen:

Edward F. Sise, John Knowlton, Albert R. Hatch, James P. Bartlett, Jno. N. Handy, Leonard Cotton, Lyman D. Spaulding, Daniel Marcy, Lory Odell Peyton R. Freeman, of Portsmouth; Simes Frink, of Greenland; James Pickering, Newington; Daniel Smith, Durham; Jeremy Perkins, Dover.

It is of the utmost importance that immediate and energetic measures should be taken to ensure the construction of this road, and ensure a junction on favorable terms with the

Cocheco railroad. The grading of that road, from Dover to Rochester is already half completed; and the space from Rochester to Farmington will be put under contract in a few days. The rails for the whole road from Dover to Farmington, a distance of 17 miles, are contracted for, and will be delivered early the next spring. Unless, by the construction of the road from Portsmouth to Dover, we open an outlet to the seaboard for the Cocheco railroad immediately, there is great danger that embarrassing engagements may be made with the roads leading to Boston, the influence of which it will cost us much trouble to overcome. A. B."

Pennsylvania Railroad and the Forwarding Merchants.

We give the following letter of the president of this company, in reply to several of the forwarding merchants of Pittsburg.

It answers the question propounded in the only way, as it appears to us, that it could be *properly* answered. That the greatest benefits may be derived, from a railroad, by all concerned, it must be under the control of those who will ensure the most efficient, uniform and economical management, which cannot be done when the road and power is owned by one party, and the cars and depots by others.

We also give it for the correct and noble views it contains, and commend it most cordially to the managers of some other public works we know of, as a model for their study.

OFFICE OF THE PENNSYLVANIA R R. Co.,
Philadelphia, Ausust 9, 1848.

To the Directors of the Pennsylvania Railroad Company:

The committee to whom was referred the following communication, viz:

To the President and Directors of the Pennsylvania Railroad Company:

The undersigned, transporters on the public improvements between Philadelphia and Pittsburg, having in view the commencement of preparations for pursuing their business upon the Pennsylvania railroad, have recently heard circumstances mentioned which lead them to suppose the proprietors of the road may design to engage in the business of transporting freight in cars of their own.

Impelled by the necessity of obtaining early and definite information on this point, they respectfully request to be advised of the views and intentions of the company in regard to the matter of transportation. Signed by

Lewis & Butler, Dulith, Humphreys & Co, Harris & Leech, Binghams & Dock, Wm. Bingham, Craig & Bellas, Clark & Thaw, Borbidge & Cash, James Steel & Co., P. K. Fritz, Pittsburg,

REPORT:

That a proper regard for the interest of all parties engaged in transportation, makes it just, that the policy of this company in relation thereto should be developed, and that it is due to these gentlemen and to the stockholders that the views of the directors should now be made known as a guide to the operations of the former and the expectations of the latter:

In deciding a question of so much moment o the success of the enterprise, the board hould be governed by the intentions of parties who have subscribed to the stock of the company.

The committee understand that the great and primary objects the individuals and corporations subscribing to the stock expected to realize, when they instituted the company, were to make a communication through Penn sylvania, connecting the eastern and western waters, which should at all seasons afford a conveyance, rapid and cheap, and secure uniform charges upon merchandise shipped up on it, with the intent to derive increase of business, incident to such improved means of transit.

With this view of the intentions of the stockholders, the committee are of opinion—that it is incumbent upon the board not only to construct a road permanent in its character, with gradients as low as the nature of the country and sound economy will permit, but to conduct the transportation upon it, at the lowest rates possible consistent with a fair and equitable remuneration for the capital invested, and this latter object cannot be obtained, if the profits are divided with individuals engaged in that business, because any profit gained by the individual, beyond the necessary charges on the road, must be a tax upon the trade.

Hence, upon the completion of the road, the transportation of merchandise should in the main, be conducted by the company, unless private enterprise can work at cheaper rates.

The charter provides that the road shall at all times be kept open as a public highway, at specified tolls and charges for motive power, which are far below the gross charges for transportation made by carriers on the Columbia road.

If under those rates individuals can enter into competition with the company, every facility should be afforded to them; but they must bear in mind, that prices will be regulated by the company's charges, for they cannot permit the trade throngh Pennsylvania to be taxed for individual profit to any greater extent than is required to give satisfactory returns to the capital invested in making the road and its appurtenances.

It must be recollected that the Pennsylvania railroad company was not instituted merely for private speculations or direct gain.

It is essentially a public work, demanding, it is true, fair equivalent for the capital invested, but having for its main object the public benefit.

It is not built by capitalists, for, with few exceptions, no retired capitalists are engaged in it. It is being built, in the main, by the corporations of the city of Philadelphia and the county of Allegheny, and consequently by the whole people of those places. The private capital engaged in it is furnished, by the active business man—the shopkeeper, the clerk, the drayman and the mechanic—and such are the parties who will furnish it, unless the retired capitalists of this city and Pittsburg shall hereafter show that they have sufficient forethought and enterprise to aid a work destined to advance their future interests.

Belonging, as it does, to the people, the benefits of the road should be spread among the people to the utmost extent—and the Pennsylvania railroad, while it returns a liberal dividend to its owners, must be made to foster trade, develope the resources of the interior, and enhance the value of real estate within the range of its influence.

This end can only be accomplished by low and uniform charges for transportation, and by devoting its undivided profits to the payment of dividends.

The attainment of uniformity in charges is not to be looked for, if the transportation is conducted by private individuals. The experience of the business community, and their knowledge of the management of public works, will satisfy them of the correctness of this assertion.

Freight between this city and Pittsburg varies with every fluctuation of trade. During the past year, the rates on goods going west changed in different periods of the year 50 and 60 per cent., and flour from Pittsburg to Philadelphia from less than a dollar to two dollars and a quarter per barrel, and vast quantities which would have waited its fair prices, the current of trade, sought other channels to market.

Under the system adopted by the State, this evil could not be avoided, for with no other motive than private emolument, it is not to be expected that individuals will pursue any other course than to make tthe most of their opportunities.

While the transporters are taking advantage of favoring circumstances to increase their profits, the interests of the whole trading community suffer—for not only is the profit absorbed by the freight on articles of minor value, but distant shippers are driven to other channels to the detriment of the revenues of the state works, and the legitimate business of Philadelphia and Pittsburg is transferred to other cities.

Like causes produce like effects, and if the conduct of the transportation on the railroad is left to individual enterprise, the interest of the stockholders as well as that of the business public must suffer.

The committee are of opinion that the true policy of the company will be to run its own cars at established uniform rates, and if any variation is admitted in different seasons of the year, in consequence of additional expenses incurred during the inclement months those variations should be publicly known in order to give confidence to distant freighters, and that every facility should be given to the owners of cars engaged in transporting consistent with the principles here laid down.

Thus far the committee have alluded to the policy which should govern the company after their continuous line of road is open to Pittsburg. Until that period a condition of affairs will exist requiring a modification of these views.

Freighters will undoubtedly require the goods to be receipted through in a specified time. This will involve the necessity of through lines, and the company will be obliged either to hire boats at their temporary

terminus, or to carry goods to that terminus for transporters already engaged in the business.

The former course would involve the company in risks of doubtful propriety, and might conflict with their chartered privileges; the latter course would be preferable in many points of view, and should be adopted if satisfactory arrangements can be made with these gentlemen. The company would in this case avoid the expense of depots and agencies, and deliver their goods at the temporary terminus at specified rates to the transporter from their warehouses in Philadelphia, and receive those coming from the west at the same point, deliverable at the transporter's depots in Philadelphia.

If the cars owned by the transporters, are used for this service, a suitable remuneration for the use of such cars will for a deduction from the charge of transportation.

All of which is respectfully submitted.

S. V. Merrick, Chairman.

At a meeting of the board of directors, held August 9th, 1848, it was unanimously

Resolved, That the report of the committee on road be adopted, and a copy transmitted to Messrs. Lewis & Butler.

Resistance of Railway Trains,
Or Experiments by Gravity on Planes.

The London Morning Herald gives a report of a series of experiments made on the Wotton Basset inclined plane, which we take from the Railway Chronicle of June 17th, with the editor's remarks.

The *Morning Herald* continues to publish the experiments produced at the discussion in the Institution of Civil Engineers, along with its own comments and application of the same. We give them below, but with our decided dissent from the conclusions drawn, and our protest against experiments made on so short a space, and in so rough a manner, being used as the basis from which to draw with safety any conclusions of a general kind. We are glad to hear that there is every likelihood of experiments on a large scale, and of an indisputable character being made on the subject of the resistance of railway trains, which may settle all these questions in a manner worthy of the profession and of the great interests placed in their hands.

Experiments down Inclined Planes by Gravity.—"We return to the consideration of this interesting and important practical railway investigation. As we have previously stated, the question of the "resistance to railway trains at certain velocities," is not a mere scientific question, but one in which the convenience and accommodation of the public are very materially involved. The establishment of the truth of the formula, which makes the resistance at 60 miles per hour, some 40 pounds per ton, or 50 per cent. higher than we shall presently show it to be, would present a strong economical argument either against express travelling, or for the restriction of the accommodation of quick transit to first class passengers at high fares.

In the observations made by us a few days since, in reference to the extraordinary differences of opinion existing on the subject between practical engineers, we noticed the singular fact that while a uniform velocity of not more than 36 miles per hour has ever been maintained with narrow gauge trains, by the force of gravity, down an incline of 1 in 100, a uniform velocity of upwards of 53 miles per hour had been maintained with broad gauge trains by gravity down an equal incline. We then stated that we had ourselves gone down the Box tunnel incline (1 in 100,) at a greater uniform velocity than 53 miles per hour. We have since made a series of experiments down the Wootton Bassett incline, stated to be 1 in 100, but some portion of which is 1 in 110 only; and down other inclines on the Bristol and Exeter railway; and from the details given below, it will be seen that a much greater uniform velocity than 53 miles per hour, even under very unfavorable circumstances, can be obtainad down 1 in 100, by gravity, and that consequently the foundation on which many railway engineers have rested the very pillar of their theory of high rates of resistance at high velocities, is utterly without substantiality—that, indeed, it is a mere fallacy, which will hereafter be numbered among the delusions and visions of practical men.

The whole of the following experiments were made with ordinary working trains, and the object was not to collect minute data from which any scientific results might be deduced, but simply to prove, exclusive of the results of experiments made by either broad or narrow gauge engineers, that what has long been considered an established fact in reference to the resistance of railway trains descending inclined planes by force of gravity, is a mere circumstance which, although applicable to narrow gauge trains, is utterly inapplicable to broad gauge trains. The diversities in the rates of speed shown in the workings given below arose, no doubt, from a great variety of causes. Nearly the whole of the portions of the line over which the experiments were made, consisted of a series of curves, and of cuttings and embankments. The carriages were of different weights, and may occasionally have been well or badly coupled. One day the weather was calm, the next it was unsettled; in some of the experiments there was a slight head wind, in others a moderate side wind from the right, or a moderate side wind from the left prevailed, and during three of the experiments there was a brisk side wind. The speed, too, at which the trains were running when the steam was shut off would, in relation to the weights of the carriages, as well as to the direction of the wind, enter into the causes of these diversities of speed. We shall, however, not hazard a single opinion on these matters, but confine ourselves to demonstrations that the formula of high resistances at high velocities is worthless in respect of the resistances due to broad gauge trains descending inclined planes by their own gravity.

In the experiments made down the Wootton Bassett incline with the dynanometer carriage, constructed under the directions of Mr. Brunel, the carriages were weighted to 10 tons each. In no one of the experiments given below, which were made with the ordinary passenger trains, did any of the carriages amount to this weight, that is, they were not full of passengers. The engines employed belong to an old class, and weigh, road-worthy, about 23 or 24 tons.

It has been objected against the experiments made down the Wootton Bassett incline with the dynanometer carriage, that the distance over which a uniform or increasing velocity was attained, viz: 10 or 11-16ths of a mile, is too short to produce a useful practical result. To meet this objection, we took the rates of speed not only down the mile and one-eighth of the fall of 1 in 100, but down the next seven-eighths of a mile, which are on a fall of 1 in 660 only. The fall of 1 in 100 commences a few chains beyond the 85th mile post, and terminates a few furlongs beyond the 86¼ mile-post. Thence to the 86¾ mile-post the fall is 1 in 666.

The first experiment was made with a train consisting of four passenger carriages, three horse boxes, and one luggage van, weighing about 60 tons. The engine was the "Orion." The following is the working for the quarter mile immmediately preceding the 85th mile-post, as well as from the 85th to the 86¾ mile-post. The rails were dry, and very little wind was stirring.

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
84¼	15¼	58·1
85	15	60
85¼	15¼	58·1
85½	15½	59
85¾	16½	54·5
86	16½	54·5
86¼	16½	54·5
86½	16¾	53·7
86¾	17	52·9

It is here seen that the speed for upwards of half a mile down 1 in 660 is very little below the uniform velocity down nearly three-quarters of a mile of 1 in 100. We merely record the fact, leaving those who have more time at their command than we have ourselves, to explain or suggest the causes."

This first experiment proves precisely *the reverse* of the theory of the writer, in so far as it proves anything. At 85, near the commencement of the incline, a quarter of a mile is done in 15 seconds; at 86¼, near the foot of the incline, it takes 16½ seconds, being a velocity rapidly *retarded*, instead of uniform, which is precisely as might have been expected. The next experiment is so badly observed that nothing at all can be deduced from it.

"The next trip was with a train of four passenger carriages and a horse box, weighing about 41 or 42 tons, and was attached to the "Mars" engine. The following is the working—rails dry, and weather calm:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
84¼	18	50
85	18	50
85¼	18	50
85½	17½	52·2
85¾	17¾	50·7
86	17¾	50·7
86¼	17¾	50·7
86½	17¾	50·7
86¾	18	50

The third trip was with the same engine,

with three passenger carriages, one luggage van, and two horse boxes, weighing about 45 or 46 tons. The rates of speed were as follows:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
84¼	17½	52·2
85	16¾	53·7
85¼	17¼	50·7
85½	16½	54·5
85¾	17½	52·2
86	17½	52·2
86¼	17½	52·2
86½	17½	51·4
86¾	18	50"

This third experiment has at 85 a quarter of a mile done in 16¾ seconds; and at 86¼, the foot of the incline, it takes 17¼, being again a clear case of *retardation* instead of acceleration, or at least uniformity, as the writer would have it. In the fourth experiment we have again at 85, one quarter of a mile in 16½ seconds, and at the foot, at 86¼, one quarter of a mile in 17½ seconds—exactly proving the reverse of the writer's theory. The fifth is irregular, and shows nothing at all.

"The fourth experiment was made with the "Firebrand" engine. The train consisted of three passenger carriages and a luggage van, weighing about 36 tons. The carriages were well filled with passengers. Below is the working:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
84¼	16½	54·5
85	16½	24·5
85¼	17½	51·4
85½	17	52·9
85¾	17½	51·4
86	17½	51·4
86¼	17½	51·4
86½	17½	51·4
86¾	17½	51·4

The fifth experiment was with the "Orion," with four passenger carriages, three horse boxes, and a luggage van, weighing about 59 or 60 tons. The following are the results, premising that the steam was not shut off in this case until the engine was within a few chains of the 85¼ mile-post:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
84¼	17½	51·4
85	17½	51·4
85¼	17	52·9
85½	17½	52·2
85¾	16¾	53·7
86	17	52·9
86¼	17	52·9
86½	17½	52·2
86¾	17½	52·2

The sixth experiment was with the "Load Star." The train consisted of four passenger carriages and a luggage van, weighing about 41 or 42 tons. A brisk side wind was blowing. It will be observed that the rates of speed alternate over the whole extent of the 2¼ miles:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
84¼	16	56·3
85	15½	58·1
85¼	15¾	57·1
85½	16	56·3
85¾	17	52·9
86	16¾	53·7
86¼	17	52·9
86½	16½	54·5
86¾	17	52·9"

The sixth experiment belongs again to the retarded series, and disproves the writer's theory; the speed at starting is 57, and at ending 54 miles an hour! The same may be said of the seventh, eighth, and ninth. The rest are on the inclination of 1 in 120.

"The seventh trip was with the "Arab," with a train consisting of three passenger carriages and a luggage van, weight about 38 or 40 tons—carriages well filled. In this trip we obtained the greatest uniform velocity—rails dry; weather calm:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
84¼	15½	58·1
85	15½	58·1
85¼	15¾	57·1
85½	15½	59
85¾	15¾	57·1
86	15¾	57·1
86¼	15¾	57·1
86½	16	56·3
86¾	16	56·3

The eighth experiment was with the "Bellona," with four passenger carriages and a luggage van, weighing about 41 or 42 tons The working was as follows:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
84¼	16	56·3
85	16	56·3
85¼	16¾	53·7
85½	16¼	55·4
85¾	17	52·9
86	16¾	53·7
86¼	17	52·9
86½	16¾	53·7
86¾	16¾	53·7

A brisk side wind prevailed on the occasion, and the same result was produced as in the previous experiment, where a side wind affected the train, viz: alternating rates of speed.

The ninth experiment was with the "Firebrand," with a train of four carriages and a luggage van, weighing about 55 or 56 tons—rails dry; slight side wind:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
84¼	16	26·3
85	16¼	54·5
85¼	16¼	54·5
85½	17	52·9
85¾	17¼	50·7
86	17¼	50·7
86¼	17¼	59·7
86½	17¼	50·7
86¾	18	50

The tenth experiment was upon the Bristol and Exeter line, from the 174th to the 176¼ mile-post. This portion of the line is on a fall of 45 75 feet per mile, or about 1 in 120. The engine employed was the "Load Star," and the train consisted of four passenger carriages and a luggage van, weight about 41 or 42 tons. The descent was commenced at a speed of about 36 miles per hour, and the following are the workings—rails dry, and slight head wind:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
174¼	24¼	36·3
174½	23¼	38·3
174¾	23¼	38·3
175	22¼	39·6
175¼	22¼	40
175½	22	40·9
175¾	21¾	41·4
176	21¾	41·9
176¼	21¼	42·4

In this experiment, the velocity down an incline less by 20 feet per mile than that down which the narrow gauge trains have never yet maintained a uniform velocity of more than 36 miles per hour, increased from 36·3 to 42·4 or 6·1 miles per hour. And yet we have little doubt we shall still find practical men contending for the high rates of resistances which some of the narrow gauge party pertinaciously assume to be due to all railway trains travelling at high velocities.

The eleventh experiment was from the 172¾ to the 170¾, viz: 2 miles. The engine employed was the "Saturn," and the train consisted of five passenger carriages and a luggage van, weighing about 56 or 57 tons. For about two-thirds of a mile the fall is 1 in 82; this is followed by a fall of about 6 chains of 1 in 90, and another fall of about 7 or 8 chains of 1 in 82. The rest of the distance is on a fall of 1 in 90. The average velocity of the train through the White Ball Tunnel, 49 chains in length, and which immediately precedes the inclines over which we took the working of the train, was 42·5 miles per hour. It will be seen that this speed was increased to 50 miles an hour at the 170¾ mile-post. The following are the workings of this trip:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
172¼	20½	43·9
172¼	20¼	44·5
172	20	45
171¾	19½	46·2
171½	19	47·4
171¼	18½	48·6
171	18½	49·3
170¾	18	50

The twelfth experiment was a second run down the 1 in 120, between the 174th to the 176¼ mile-post. The engine employed was the "Firebrand," and the train consisted of four carriages and a luggage van, weighing about 44 or 45 tons. The working follows—rails dry, and moderate side wind:—

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
174¼	24	37·5
174½	23¾	37·9
174¾	23¾	37·9
175	23½	38·3
175¼	23½	38·3
175½	23	39·1
175¾	23½	38·7
176	23	39·1
176¼	22½	40

The thirteenth and last experiment was with the "Milo," and a train of three passenger carriages and a luggage van. Weight about 34 or 35 tons. A brisk side wind prevailed.

Mile-posts.	Time per quarter mile in seconds.	Miles per hour.
172¼	16½	55·4
172¼	16½	55·4
172	16	56·3
171¾	16½	55·4
171½	16½	54·5
171¼	16	56·3
171	16	56·3
170¾	16	56·3

In this experiment the steam was shut off at the 172¾ mile-post, which is in the White Ball Tunnel."

The reader who has read our comments, in which we show that the experiments exceeding 50 miles an hour all show rapid retardation, will be surprised at the following conclusion—that an uniform velocity of 60 miles an hour is maintained by broad gauge

carriages down 1 in 100—a conclusion directly in the face of the facts adduced.

"The results of these experiments satisfy us that, with broad gauge passenger carriages, weighted to ten tons each, a uniform velocity of at least 60 miles per hour can be obtained by gravity down a straight incline of 1 in 100, in calm weather; that is, 24 miles per hour faster than the velocity laid down in the formula.

We perfectly well recollect that Mr. Brunel was laughed at when he stated, some years ago, that he could get 60 miles per hour out of a locomotive. We now get 75 miles per hour with heavy trains. His opinion that he could obtain a uniform velocity of from 50 to 55 miles per hour by gravity down 1 in 100, was treated with scarcely less courtesy. These practically demonstrated and demonstrative affirmatives of things declared to be "impossible," should teach some of our extremely clever paper calculators and ingenious theorizers the insecurity—for their own fame—of laying down "general" rules upon incomplete or one-sided data. They are too positive and too clever—genius is modest, and usually doubts in these matters.

The experiments were taken with one of Charles Frodsham's beautifully accurate split seconds hand watches, the construction o which we explained in a previous article."

Mad River Railroad Report.

We find in the Sandusky Clarion, of 21st August, the following synopsis of a report of this company, for 8½ months—from which we learn that the road is very nearly completed to Springfield, by which the communication from the lake to Cincinnati will be opened; and we also learn that its business has increased regularly, and the income steadily exceeded expectation, from the day the first engine ran upon the road. This is gratifying—but the increase of the past will be greatly exceeded by that of the *future*, we feel quite willing to guarantee—at a small commission.

The editor says the "Hon. E. Lane, president of this company, has laid before us the annual report of the president and directors of the affairs of the road, for the eight and a half months preceding the 3d of July.

"At the last annual meeting in October, the road was in use from Sandusky to Bellefontaine, 102 miles. November 17th, the cars ran to West Liberty; and on the 30th of March last, the communication extended to Urbana, making 120 miles, which left only 14 miles to be completed between Urbana and Springfield, to render the connection with the Little Miami railroad and the communication between Sandusky city and Cincinnati entire and complete. The completion of this 14 miles has been retarded by the late wet weather, but we are expecting *every day* to hear that it is finished. A branch to Findlay—the country seat of Hancock county—is progressing viorously; the grade is nearly finished, and timber for superstructure mostly upon the ground. It is hoped it may be completed in season to bring to market the crops of the present year.

"Surveys and estimates for a continuation of the main line to Dayton, are far advanced, and contracts for construction may be let immediately. The character and amount of subscriptions applicable to the work, afford the strongest expectations that it will be speedily completed.

"The legislature, at its last session, gave power to the company to increase its capital steck to $4,000,000—a provision deemed sufficiently large for all future wants.

"The resources of the company have hitherto been appropriated to construction, and the revenue of 1848 is believed to be sufficient to establish the connection with the Little Miami road at Springfield, and leave no debts except those secured by the mortgages.

"The directors believe that dividends of profits should be made among stockholders as early as possible; and announce their belief that the earnings of the road, after paying current expenses and interest of loans, will be applicable to this purpose after the close of the present year.

"They also announce the gratifying fact, that from the day the first engine ran on the road, the income has steadily exceeded expectation; that it has never been more satisfactory than during the period covered by their present report; and that it justifies the confident expectation that the stock of the company, as soon as the road is finished, will become a sound, steadily productive, and permanently valuable investment for its owners.

"The road equipments of the company consist, at the date of this report, of 142 covered freight cars; 63 open freight cars; 2 covered 8-wheel freight cars; 25 hand cars; 6 passenger cars; 4 8-wheel baggage cars, and 13 locomotive engines—the whole valued at $176,950. In addition to the above, 2 locomotive engines have since been received from Patterson, N. J., and 2 more are contracted for in Cincinnati, one delivered in July and the other to be delivered in September—11 covers to engines; 2 frames and 2 tender frames, and materials for 20 eight-wheel freight cars.

"The amount received for travel and transportation from the middle of October, 1847, to the end of June, 1848, is $106,375 51.

"The amount of disbursements for construction, which includes the completion of southern division No. 2, from Bellefontaine to Urbana, southern division No. 3 from Urbana to Springfield, and side tracks at Belle Centre and Tiffin, is $86,173 89½.

"The amount expended for repairs, including new track between Sandusky city and Bellevue, is $51,463 31½.

"The expenses of shops, locomotives, cars, materials and wages of men employed in Sandusky city, $80,179 09.

"The expenses of transportation, including wages of men, oil, etc., exclusive of wood, are $23,144 56

"For wood, including 4000 cords on hand, $12,615 57.

"Expenses, engineering, salaries and wages of officers, $15,282 71.

"Iron and spikes, $66,719 06.

"The following are the names of the officers for the enguing year:

"*President*, Ebenezer Lane; *Treasurer and secretary*, R. Patterson; *Superintendent*, E. F. Osborn; *Directors*. Ebenezer Lane, E. F. Osborn, F. M. Follett, Samuel Henshaw, Mathias P. Sawyer, Henry Timmins, David A. Neal, Samuel Keener, Wm. Hunt, Peter Odlin, Samuel Mason, Eleutheros Cook, Daniel Beckel."

TO CONTRACTORS.

SEALED proposals will be received at the office of the Lafayette and Indianapolis Railroad Co. in Lafayette, until the 11th day of October next, for the Grading, Masonry and Bridging of that part of said road lying between the summit south of Durkee's Run, near Lafayette, and Lebanon, in Boone county, about 34 miles. Also, for the wooden superstructure for the same, in a distinct bid.

Plans and specifications will be exhibited by the engineer. By order of the Board.

ALBERT S. WHITE, Pres't.

Lafayette, Aug. 17, 1848. 6t35

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.

August 5, 1848—3m*

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

:y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,

AND ALSO

THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 149 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelp'a.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.

April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

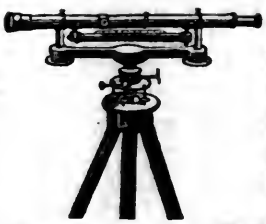
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

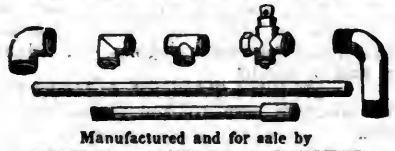
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



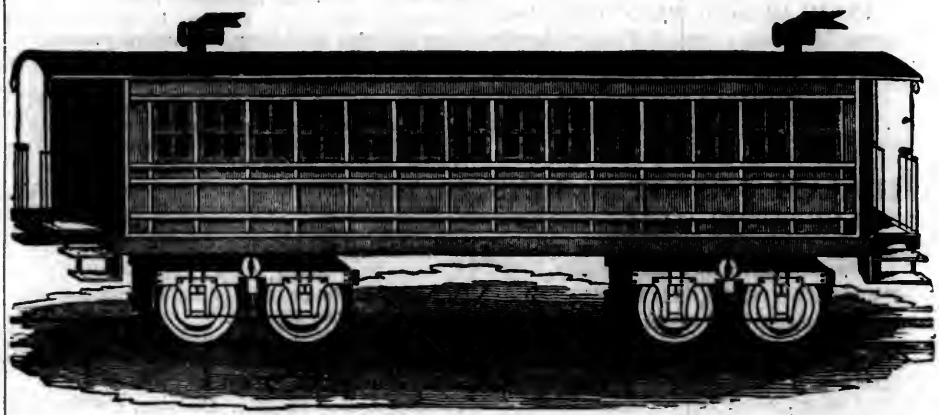
Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.





Our improved Spark Arresters have been extensively used during the last year, on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

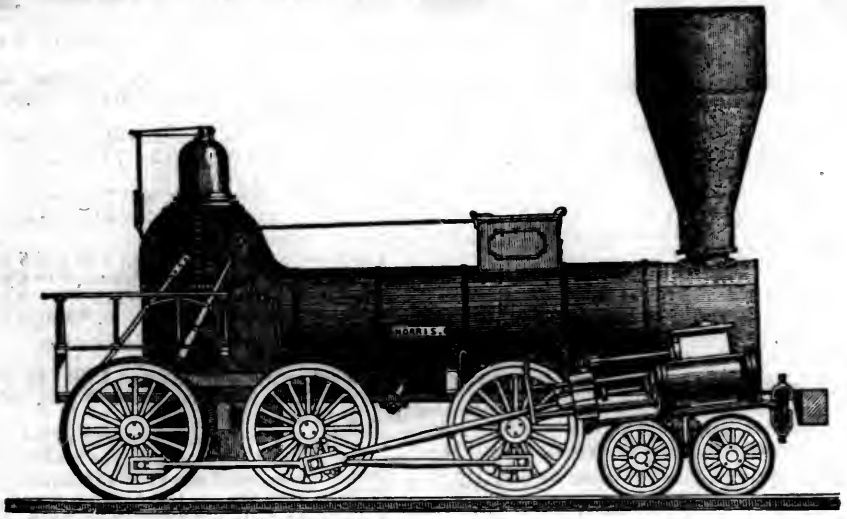
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

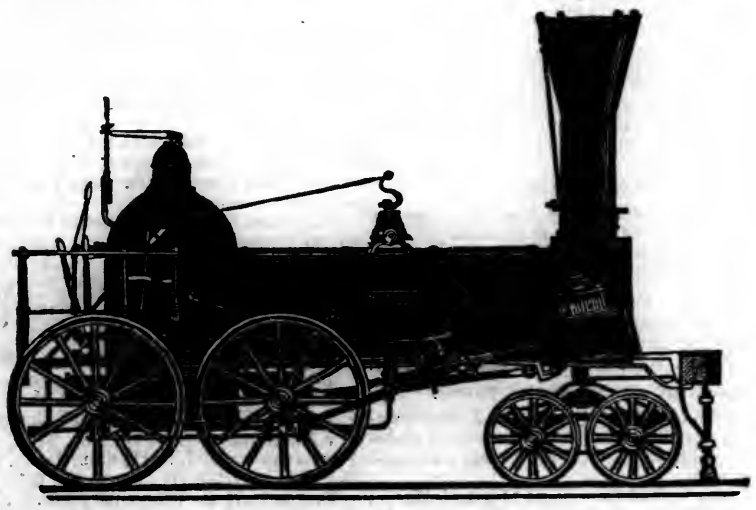
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger



trains will leave daily, Sun-



days excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia. April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery.....	40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.




SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—




Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.




Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

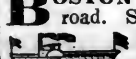
The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAIL-

road. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:




Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12¼ p.m. and 8 p.m.
Leaves York for Columbia at..1¼ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5¼ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7¼ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5¼ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5¼ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAIL-Road. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAIL-ROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3 00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WEST-ern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

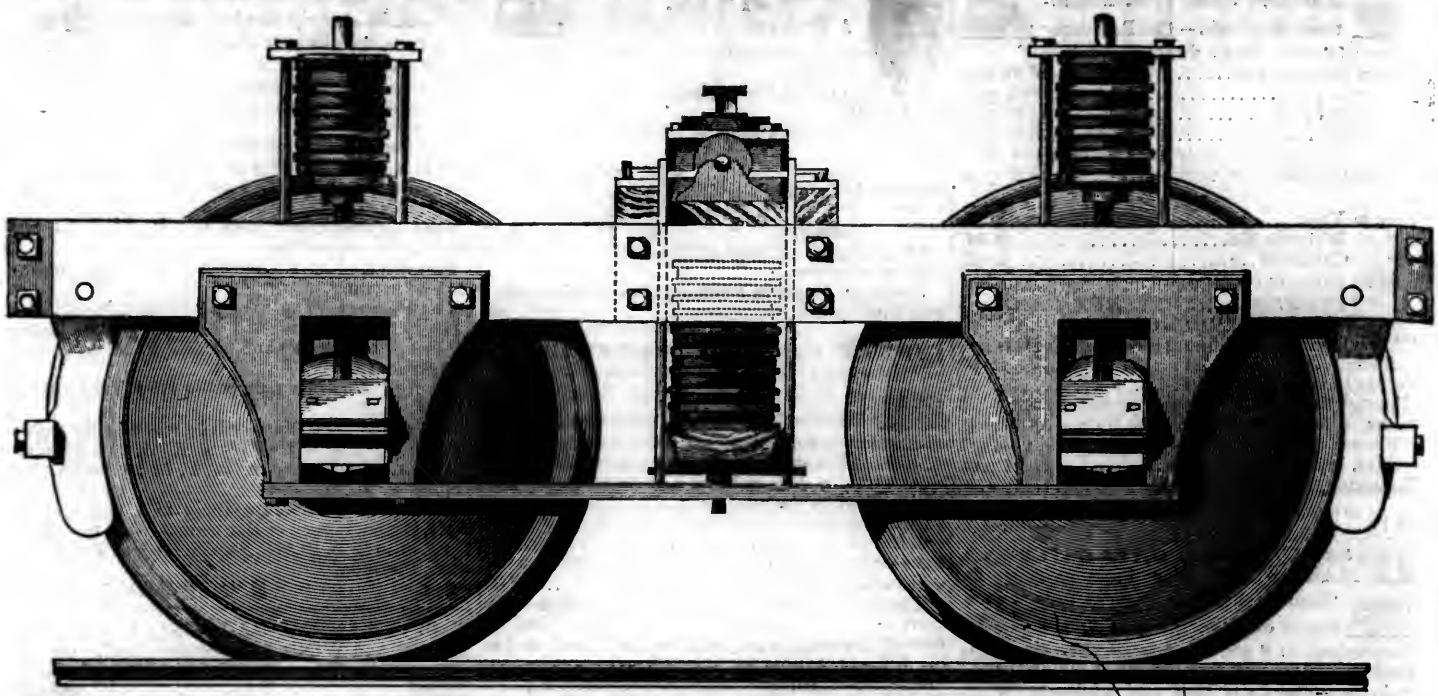
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with F. M. RAY, 100 Broadway, or with WM. RIDER & BROTHERS, No. 58 Liberty street, New York.

Boston, June, 1848.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS,
1y48

AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, September 9, 1848.

RAILROAD IRON—SHEET IRON—BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.

New York, Sept. 9, 1848. 6w*

Improved Locomotive Boiler for Burning Anthracite Coal.

Many experiments have been made, and much money expended in the construction of *boilers* for locomotives, in which anthracite coal may be used to advantage; and in several instances important results have been attained, but in the most successful that we have seen, or heard of, there has been a serious difficulty, in the destruction of the tubes and fire box, by the intense heat of the anthracite fire. There has been a lack of space, or of grate surface, over which to spread the fire, a difficulty not easily overcome in the oadinary form and size of locomotive boilers, but which is, we think, successfully overcome in the plan of Mr. Septimus Norris, which we lay before our readers this day, and to which we call their attention.

Atlantic and St. Lawrence Railroad.

We learn, says the Portland Advertiser, of 5th inst., that this company has transported 6,257 passengers over this road since it was opened for the regular running of the cars, July 20, to August 21—making an average of 174 per day.

There has been a regular increase in its business every week, and the present week it has averaged over 200 passengers per day.

The company has not, until now, been able to transport much freight, bnt it is calculated that this part of its business will increase the receipts of the road considerably.

Since about the 1st of August, the track layers have laid the timber and iron as far as Dunn's corner, four miles from North Yarmouth depot, and the engine, with a train of timber and iron, ran as far as this point, Friday morning. As soon as the ballasting is completed, the cars will be run to that point, and they will probably run as far as New Gloucester about the middle of October, and soon after in connection with the Androscoggin and Kennebec road to Lewiston falls.

The new broad gauge engine, the "Montreal," built by the Portland company, will be put on the road by the middle of September, when a third passenger train will be run each day on the road.

Camden and Amboy Railroad Co.
Its Practices and its Professions.

We alluded, in our last number, to the statement, in the address of the directors of this company, to the people of New Jersey—which we published in No. 32, for August 5th—in which they give the *comparative rates* of transportation on *their* works, and on 117 other railroads and branches in the U. States. We characterised that statement as "neither just nor dignified," and we feel bound, in using such terms towards gentlemen occupying the position in society conceded to the managers of this road, to show wherein their comparison is "unjust" towards *other* railroads—and "undignified," because untrue, when the comparison it is when the *rates* charged on the *Camden and Amboy railroad* are fairly compared with the rates charged on the other railroads in the United States.

It is unjust, in the first place, to compare the rates charged on *short* lines, and *branch* roads—which are usually made to accommodate comparatively small towns, or sparsely populated districts—with lines of 80 to 100 miles in length, connecting large commercial cities; and it is also unjust to compare the rates of fare and freight of a road of 90 miles in length, between the two largest cities in the Union, with the rates on railroads at the south, where they pass through regions of country cultivated mainly by slaves, who never travel—and where the items of freight, in one direction, are confined to a very small number of articles; but it is *more especially unjust* for these managers to attempt to make out a case, in their favor, by adding the amount of transportation for the month of May, 1848, on the *canal*—which is reported as follows, viz:

Coal	67,478
Grain and feed, 27,250 bushels	615
Lime, 44,229 bushels	1,490
Salt, 1,550 bushels	52
Timber and lumber, 1,525,957 feet	3,178
Pig and railroad iron	1,675
Flour and corn meal, 4,833 bbls	440
Whiskey, 531 bbls	66
Fish, 97 bbls	14
Nails, 1,805 kegs	90
Hay and straw	368
Ice	803
Stone	668
Sand	365
Clay	375
Brick, 72,770	145
Merchandise	6,666

or 84,488 tons carried 110 miles—to that on the railroad for the same period, which is reported at 1,983 tons carried 90 miles, making 86,470 tons, or equal to 9,472,150 tons carried *one mile*—for $122,099—*or at an average freight on both works of one cent and twenty-nine hundredths of a cent per mile.*"

This is certainly straining a point to make out a favorable case before the people of New Jersey—the tribunal before which the company is likely to be arraigned; and it fully sustains us in our remark, that "it is not just," when the facts of the case are fully understood, and the rates of freight, on *their railroad*, during the year 1847, are compared *fairly* with the rates of freight charged on other railroads during the same period. If they had taken the rates of freight, for the "Camden and Amboy Railroad and Union Transportation Line," from the same

source that they took the rates for the "117 railroads and branches,"—viz: Doggett't Railroad Guide for 1848—they would have shown that the charges are, by that company, for "teas $10 per ton, drygoods 40 cents, light merchandise 50 cents, and bulky merchandise 75 cents per 100 lbs."—or an average of 55 cents per 100 lbs—which is equal to $11 per ton of 2000 pounds—*or* 12·23 *cents per ton per mile*, instead of 1·29 cents per ton per mile, as represented in their address to the people of New Jersey; and we see no reason why "Doggett's Railroad Guide" is not as good authority in relation to the "Camden and Amboy Railroad and Union Transportation Company," between New York and Philadelphia, as in relation to the "117 other railroads and branches" in twenty different States. They may not discredit it their own witness—by whom they attempt to fix the brand of *comparative extortion* upon the whole railroad management of the Union, while they make themselves out as serving the public for *less than* a remuneratiag compensation. It reminds us of the common practice of the rogue, who—being detected in his villany, rushes into the street, amidst the crowd, followed by those who caught him in the act, crying "stop thief," cries "stop thief" louder than his pursuers, thinking thus to divert from himself, and towards other and innocent parties, the attention of the people around, who are thus oftentimes deceived, and made instruments in aid of fraud and villany; but it will not do in this case, because there are too many thousands who have *written* evidence of the unfairness of this attempt at deception—or, to use a milder term, this apparent effort to show that they are serving the people at *exceedingly low and patriotic rates.*

We cannot devote more space to this matter in this number, except to give their comparative statement of the *rates charged* in the different States for 1st and 2d class freights, for the purpose of requesting our readers in the different States, and on each *railroad*, to give us the rates as they *were* in 1847, and as they *are* in 1848, that we may be able to give the facts, and correct our errors, if we have committed errors, on this subject. We seek to obtain and give the truth. We have no desire to mislead. The statement above alluded to is taken from the address, and is as follows, viz:

	1st class freight per ton per mile—average in cts. and hundredths of a cent.	2d class freight per ton per mile—average in cts. & hundredths of a cent.
Maine	5 68	3 38
New Hampshire	5 25	5
Vermont	4	4
Massachusetts	5 57	4 54
Rhode Island	6 37	4 39
Connecticut	5 75	3 50
New York	9 04	5 79
New Jersey	13 57	11 66
Pennsylvania	6 75	5 35
Maryland	4 56	3 12
Virginia	10 44	4 69
North Carolina	9 83	6 37
South Carolina	10 75	5 50
Georgia	9 33	4 78
Kentucky	9	9
Mississippi	24 30	17 30
Alabama	16 33	8
Ohio	6 60	4 62
Indiana	8	5 81
Michigan	8 44	6 50
	20)179 46	20)120 30
	8 97	6 16
		8 97
		2)15 13
Average		7 56

Which shows an average charge on the 117 other American railroads, of 7·56 cents per ton per mile, while *they* charge only, according to their gwn account, 1·29 cents per ton per mile! or only about one-sixth as much as is charged by other railroads!!

Septimus Norris & Henry Bacmeisters' Locomotive Boiler for Burning Anthracite Coal.

Philadelphia, August 28, 1848.

D. K. Minor, Esq.,
Editor of the Railroad Journal:

Dear Sir: I take the liberty of sending you a description of a new locomotive boiler, for burning anthracite coal; and if you think it worthy of a place in your valuable Journal, it is at your service.

Very truly yours,
Septimus Norris.

The form of boiler hitherto used for locomotive engines is admitted to be, by its construction, peculiarly adapted to the burning of all those varieties of fuel which contain a considerable per centage of volatile matter, such as wood, and more particularly bituminous coal. The radiant heat emitted by this class of combustibles is, as experience has shown, less available than the heat going off with the gasseous products of the combustion.

From this it appears, that a boiler having only a small part of its heating surface exposed to the direct radiating influence of the fire, but presenting to the gases evolved from that fire the greatest possible amount of cooling service, will answer perfectly well the purpose of using to advantage the above named sorts of fuel, and such is the construction of the common locomotive boiler, that the grate is surmounted by a fire box of very limited width and length, but of considerable depth; it is therefore obvious that such a fire box will receive very little heat by direct radiation, for it is only the small top, or crown sheet that is struck by the caloric rays in a perpendicular direction, whereas these rays fall upon the vertical faces of the fire box only in an oblique direction.

On the other hand, from the fire box the gases enter a large number of tubes of small diameter, and are thereby subdivided in such a manner that the heat they contain is most effectually absorbed by the contact of that large surface. But the great peculiarities that make the construction of our boiler so well adapted to the burning of wood, or bituminous coal, tend to unfit it in a great degree for the use of anthracite coal. This is apparent from a consideration of the chemical properties of anthracite. Bituminous coal or wood, as already remarked, contains a considerable quantity of volatile matter, anthracite is almost destitute of it. The action of these two classes of fuel shows therefore a very striking contrast, the heat of the former is diffusive, of the latter highly concentrated; in the former only a small portion of the caloric is given out by radiation, whereas a large quantity is carried off by the gaseous products of the combustion, in the latter a large quantity of intense heat is radiating heat, and but a moderate quantity is carried off with gases; in the former the heat evolved from the grate (the combustion going on at the usual rate) is comparatively moderate, in the latter (at the same rate of combustion) extremely intense; and so diametrically opposite are the peculiarities of these two classea of fuel, that the necessary inference is, that for the advantageous use of anthracite coal a boiler is required essentially different in its construction from the one used for bituminous coal or wood.

It is true in most cases it has been deemed necessary to allow a large area of grate in boilers intended for burning coal, but the advantage obviously gained by such an arrangement has been confined within too narrow a limit, by the necessity of making the length of the grate dependent on the distance of the coupled wheels of the engine.

In constructing the improved locomotive boiler, it has been our aim to overcome all these difficulties, arising from the above named causes. For this purpose the fire box is given such a position and shape as to effectually fulfil the following conditions.

1st. The radiant heat shall be available in the greatest possible degree.

For this purpose we have given the sheet rising over the grate and exposed to the immediate effect of the radiant heat, the section of a slightly arched vault, reducing its vertical sides to a minimum, and have moreover placed this vaulted fire box in the greatest possible depth below the surface of the water in the boiler. The beneficial effect produced by the latter arrangement, will appear from a consideration of what may be termed the fundamental principles of heating.

If a vessel be filled with water, and its temperature raised by applying some source of heat to it, the heated and therefore lighter particles will have a constant tendency to rise to the surface, while the cool and consequently heavier particles will sink to the bottom part of the vessel. Hence it appears that if a heated sheet (as for instance the crown sheet of a fire box) is introduced into a boiler near the surface of the water, the highest stratum of the water will be effectually heated by it, but the strata situated below the heated sheet will never come in contact with it, as they have no tendency to ascend and change places with those already heated. Such is actually the case with the fire box of the common locomotive boiler, in which the crown sheet (almost the only part receiving radiating heat from the grate) is but a few inches below the water line. But suppose now the crown sheet to be brought into the greatest possible depth below the water line, the effect will be very different from what it was in the former case, the particles of cold water as soon as introduced into the boiler will naturally gravitate towards the heated sheet, and after having taken up from it a certain quantity of heat, will rise to the top again with the same energy to make room for a renewed stream of cold water, and a most energetic circulation will be kept up in this manner as long as any radiating heat will be imparted to the top sheet of the fire box. Now in our boiler the fire box occupies such a position that it cannot fail to produce the described effect, and by its construction and position will most effectually absorb the radiant heat issuing from the grate underneath, and give it off to the water above.

2nd. The concentration and intensity of heat shall be counteracted to any desired amount.

This is effected by spreading the fuel over a large grate surface, and carrying on the combustion slowly. The extension of the grate surface has certainly suggested itself to all those who have reflected on the construction of anthracite boilers, as one of the first conditions for the successful use of that fuel; but as observed before their endeavors in this respect have been partially counteracted by the necessity of making the extent of grate surface dependant on the distance the driving axles are placed from centre to centre. We overcome this difficulty at once by placing both grate and fire box below the driving axles, thus making their length independant of the distance of the latter. Aside from the economical effect arising from slow combustion (which is considerable, as every one acquainted with the Cornish

system will admit,) there is another advantage gained by this system which is of great importance in locomotive engines; this consists in partially dispensing with the necessity of using very narrow blast pipes, in order to increase the draught. With large grate surface and slow combustion we are enabled to make use of blast pipes of so large a diameter, or in other words to have so small an amount of artificial draught in addition to the natural one, that the current of air introduced between the grate bars will resemble more the uniform blast of a blowing fan, than the fitful jets of air caused by the use of narrow blast pipes. Although the shape and construction of the boiler must be admitted to be calculated to fulfill the conditions named under the above heads, 1. and 2., thereby enabling us to overcome the main obstacles to the successful use of anthracite coal; yet these are not the only advantages derived from the construction. A very prominent, though incidental quality of our boiler is to have its centre of gravity more favorably situated than in boilers of the usual construction. This will appear from a comparison of the two diagrams, representing the old and new form of boiler. In Fig. 1. the centre of gravity is situated in a vertical line A B, very near the fire box. In whatever position the wheels may be placed, it is impossible to distribute the weight within any degree of uniformity. In

Fig. 1.

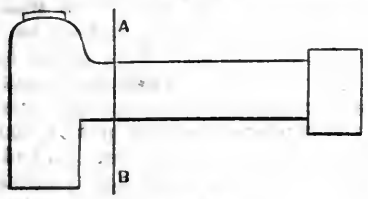


Fig. 2.

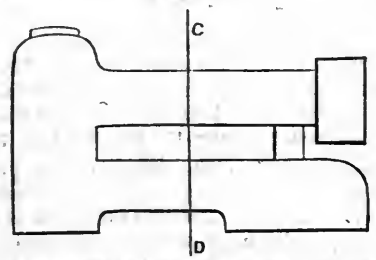


Fig. 2. the case is clearly different. In the first place by the reduction of the diameter of the upper cylindrical part of the boiler and the addition of the lower part, the centre of gravity is thrown into a lower position, and again by the reduction of size and weight of the left part corresponding to the fire box in the old boiler, and by bringing the fire box, with the additional weight of grate bars and fuel, on the right side, the centre of gravity is brought in a vertical line C D, which very nearly bisects the length of the boiler, thereby making it easy to distribute the weight uniformly on the wheels. Another advantage will arise in the construction of this boiler in relation to the tubes and tube sheet which in the present construction of boilers is certainly liable to be burnt out and the ends of tubes cut by the constant friction of the coal cinders, and small particles of coal, passing through the tubes and striking the ends. In the improved boiler the tube sheet is placed in such a position that the cinders must first strike a large surface, at the extreme end of the fire box, and then make a turn before reaching the tube sheet, which must effectually remedy this great evil, as found to a great extent, in the common locomotive boiler.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 26th ult., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Aug. 28.	8,338 00	150,067 09
By Room Run ..... "	3,640 15	75,343 00
By Hazleton	3,446 00	60,291 00
By Beaver Meadow	2,297 09	51,655 00
By Spring Mountain	2,189 12	45,715 00
By Buck Mountain	2,535 00	41,500 18
By Cranberry Mines	....	7,880 00
White Haven	206 01	5,696 16
Sugar Loaf	188 08	381 06
Total	22,841 05	438,530 09

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 31st ult., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	10,033 19
" Pottsville	4,887 09
" Port Carbon	7,491 17
" Port Clinton	2,695 01
Total this week	25,078 06
Total this year	852,874 15

The amount of coal brought to market by the Schuylkill canal during the week ending the 31st ult., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	8,343 01
" Schuylkill Haven	3,306 16
" Port Clinton	990 15
Total this week	12,940 12
Total this year	273,954 19

Recapitulation.—Total Shipments this Season.

By Lehigh companies	433,530 09
By Reading railroad	852,874 15
By Schuylkill canal	273,954 19
By Delaware and Hudson canal	244,649 00
Total	1,810,009 03

Wabash and Erie Canal.

The Cincinnati Gazette of 31st August says "we have before us a circular from the president of the board of trustees of the Wabash and Erie canal, in Indiana, containing a statement of the affairs of the trust for the six months enning the 1st of July, 1848. This shows that the trustees had on hand, the 1st of December, 1847, a balance of $483,511 50
Received since, from all sources 101,093 31

	584,604 81
Disbursements—expenses, construction, repairs and interest on loan	226,321 88
Balance, July 1, 1848	358,282 93
The amount of tolls and water rents, for the six months ending the 1st of July, 1848, is $46,285 07	
Amount received in year ending do	124,027 12
" " " July, 1847 ..	102,850 57
Increase in 1848	21,436 55

"The canal is navigable 189 miles, from the state line to Lodi, or Coal creek, on the Wabash, and the difficulties in the supply of water between Lafayette and Lodi are mostly overcome. The line between Lodi and Terre Haute, 36 miles, will be completed and ready for navigation in the spring, at a cost less than the estimates. From Terre Haute to Pt. Commerce, 42 miles, was placed under contract in May last, with a navigable feeder of five miles, making in all 47 miles to be completed in 1849. A further letting from Point Commerce to the west fork of White river, will take place on the 15th of November next, including a dam across the river and a guard lock. Seventy-eight miles are now under contract and 90½ yet remain to be let during this and the next year.

"The balance of the trust fund on hand is deposited at an interest of from 3½ to 4½ per cent.

"Payment of the balance on the subscription to the loan of $800,000, will be required in the year 1849, of which notice will be given. The amount to be paid, $48 25 on each bond of $1000 subscribed and surrendered."

Iron Truss Bridges.

The Albany Evening Journal says that "Mr. Rider, the inventor of an iron suspension bridge, has a model at Thompson & Co.'s express office, which our citizens are invited to examine.

"We understand that the Pier company have been looking at this model in reference to the bridges they are about to construct.

"The strength of these bridges have been fully tested upon the Harlem railroad. Our judgment in such matters, is worth but little, and we only venture to call the attention of scientific and practical men to the improvement."

In relation to Mr. Rider's truss bridge we can say that we have been under one of them when a locomotive and train of cars passed over it, and could not discover any material depression and very little vibration.

The plan appears well calculated for strength and economy—and there need be no fear of accidents from *fire*—three important recommendations to railroad companies.

We expect soon to have a full description of the plan, when we shall have more to say in relation to it.

Copper Mining on Lake Superior.

The last number of the Mining Journal has the following in relation to the "Cliff Mine."

This mine has had in successful operation, for several months past, a stamping machine, for dressing and concentrating that part of the metal raised, which was so mixed up with earthy substances as not to be in a proper state for sending to market. During the last month an accurate account was kept of the cost of running the stamps, and an estimate made of the value of the product. The result is as follows:

Cost of running stamps . .	$482
Estimated value of the product, .	3566
Profit, ...	$3084

The whole amount stamped was 232 tons, from which it would seem that its quantity of mineral before being concentrated, is about 5 per cent. From the results as above stated we should judge that a much larger profit must be made on this part of the mineral taken from the mine, than is yielded by the large masses or sheets of copper. They certainly establish its value for working. A very large amount of the mineral raised from the different lake Superior mines, has consisted of a mixed substance like that stamped at the Cliff mine with from five to fifteen per cent. metal. Several experiments have heretofore been tried for reducing it, but until this recent one without success. From this cause many had concluded that it was of no value, and that therefore a large part of the work-

ings of the mines being useless, a profit could never be derived from them. This experiment of the Cliff mine is therefore of great importance as establishing a contrary conclusion. The "Goliah," which left the Sault on the 7th of August, brought down about two hundred and fifty tons of copper from this mine. There have arrived at the Sault the present season from the mine about six hundred and eighty tons, and it is estimated that the whole of its shipments during the season will be not far from nine hundred tons.

Pennsylvania Railroad.

This company are preparing for work. They have, we understand, contracted with Messrs. Kimball and Gorton, for seventy-five eight wheeled burthen cars, to be placed on the road as soon as a portion of it is opened for travel. It is intended that every facility shall be afforded to the transportation of produce and merchandise upon the Central road, and the work will be pushed forward to completion at the earliest period consistent with its durability.

Within the year 1850 there will be a line of railroad cars direct from Philadelphia to Pittsburgh, and then to Columbus and Cincinnati, Ohio, if we may judge from the following letter from S. W. Roberts, Esq. This looks like extending the line in the right direction. This, if prosecuted and extended, will form a *central* line through *Ohio, Indiana* and *Illinois*, to St. Louis—but it will not *terminate there.*

Letter from the Chief Engineer to the President of the Company:

MASSILLON, OHIO, Aug. 26th, 1848.

Col. Wm. Robinson, Jr., Pittsburg:

DEAR SIR:—The rapid progress of the Pennsylvania railroad from Philadelphia to Pittsburg indicates that the time has now come for constructing the connecting link between it and the railroads of the west.

Under the liberal charter granted for the purpose by the legislatures of both the states of Ohio and Pennsylvania, at their last session, the surveys were commenced under my direction at the Mouth of Big Beaver, on the 11th of July; and they have now been extentended from the place of beginning, on the Ohio river, to the town of Massillon on the Ohio canal The distance between these two points by our experimental line, is seventy-six miles; and, if we add twenty five miles for the railroad distance from Pittsburgh to Beaver, it will make the distance from Pittsburgh to Massillon one hundred and one miles. which does not materially differ from the length of the road now usually travelled. This line has been traced on what is called the northern route, passing near Darlington, in Pennsylvania, and Salem, Damascus and Canton, in Ohio; the distance from Beaver to Salem being thirty nine miles. It passes through a well cultivated and populovs country, having no navigable communications, and presenting great facilities for the construction of a railroad, which may be made at a moderate cost, especially west of the state line. Near Darlington we found an abundance of both bituminous and cannel coals of excellent quality.

As soon as the necessary surveys can be made, and the requisite data obtained in reference to the middle and southern routes, by the valleys of Little Beaver and of Yellow creek, we shall be in a position to make a fair comparison of the relative merits of these three lines; and in making a choice between routes which may be equal, or nearly so, in an engineering point of view, the amount of local subscriptions to the stock along the line and the amount of way trade and travel that the country can furnish to the road, should have their due weight in determining the selection.

The surveys will soon be extended westward to Wooster; Mansfield and Bucyrus, and connecting with the railroad lines, completed and in progress, running southward to Columbus and Cincinnati, and northward to Cleveland and Sandusky.

This road will thus become a back bone line, of which a number of other roads will represent the ribs, and in this way its connections will be extended throughout the state of Ohio. Under the charter, the company can construct first such parts of its road as will pay the best, but care should be taken to commence no part of it until the board feel certain of obtaining the funds required to bring it into profitable use.

To the people of the cities of Pittsburgh and Allegheny, this line will be of the first importance, for it will be the direct road to their best customers; and it commends itself to the good feeling, and ought to receive the subscriptions, of the citizens generally of both the great, free states whose names it bears—because, by bringing them into a close and peaceful union, it will add vastly to their commercial power. If due diligence and energy are exercised in conducting the affairs of the company, I believe that those who live but a few years will see the Ohio and Pennsylvania railroad become one of the most important, one of the most thronged, and one of the most profitable thoroughfares to be found in our country.

Very respectfully,
SOLOMON W. ROBERTS,
Civil Engineer.

Improvements in Wrought Iron.

We find the following article on this subject in the Railway Chronicle. The editor says:

We extract from the *Mining Journal* the last recorded improvement in wrought iron: The patentee, in desribing his mode of treating wrought iron, commences by stating that he takes scraps, or pieces of wrought iron, and melts them in a cupola furnace with a soft fan blast, or in a reverbatory furnace, in the same manner as pig or cast iron is melted. If small quantities are required to be melted, a pot or crucible furnace will be most convenient: and having moulded the article to be made in the manner usually practiced in iron foundries, he pours the molton iron into the mould. The article thus made being hard and brittle, and deficient in the malleable property, Mr. Rocke proposes to treat, or anneal, in a furnace, such as is used for converting bar iron into steel, or other convenient furnace, or kiln, in which the heat can be regulated, so as to restore the malleable property; and the articles to be so treated he places within a box of iron, surrounded by bricks, or within a casing of bricks, leaving space to surround it with Cumberland red ore, or other iron ore, or charcoal, mixed together, and ground fine; or the articles may be covered with this mixture without such casing, and in this state he submits them to a sufficient degree of heat to restore the malleable property—and to determine the state of the process, the patentee employs a trial bar, which may be withdrawn from time to time, to ascertain the degree of malleability which the mass attained. For making articles which do not require to possess the density and texture of wrought iron alone, he mixes therewith cast iron in various proportions, according to the nature and requirements of the article, taking care that the proportion of cast iron, in no instance, exceeds the weight of the wrought iron; and in making articles which require to take the nature and temper of steel, he mixes with the wrought iron steel in various proportions, according to circumstances—the proportion of the steel never exceeding the weight of the wrought iron; and he pours the moulton metal into moulds, and subsequently submits it to the annealing process in the manner before described. In conclusion, he states that, having described the nature of his invention, and the manner in which the same is to be performed, he does not claim the melting of wrought iron, as that bas already been practiced to a limited extent; but what he claims as his invention is the treating and applying wrought iron, by melting the same by itself or with cast iron and steel, and the reproducing malleability in the castings of the molton iron, by annealing the same as above described.

Lap-Welded Iron Tubes.

The following patent was granted to *Job Culler*, civil engineer, for "*certain improvements in welded iron pipes or tubes to be used as the flues of steam-boilers.*"—Granted January 13; Enrolled July 13, 1848.

The object of the patentee is to produce lap-welded iron tubes or pipes, so formed as to give increased strength to those parts which are exposed to wear, without additional weight to the entire length of the tube, and thereby to obviate the evils to which boiler tubes are at present exposed. He makes the internal diameter of the tube greater at one end than at the other, instead of its being the same, or uniform throughout, as has hitherto been the case; the external diameter remaining, however, the same, and uniform throughout the entire length of the tube. The tube will, of course, be cylindrical upon the exterior, and conical upon the interior surface. The increased thickness of metal at the one end is to be drawn from the remaining portion of the entire length of the tube. And further, the operation is effected at one heat, so that the ductility of the iron of which the tubes are composed shall remain unimpared.

The *modus operandi* is as follows.—The patentee employs a series of grooved rolls, moved by suitable toothed wheels, and a mandril, with a conical bulb or head, the stem of which is of increasing diameter towards the opposite end. The skelp, after being properly prepared, as is usual in the manufacture of lap-welded iron tubes, is heat-

ed and passed between the first of the series of rolls. It is then welded over the conical bulb, and forced, at the same time, over the stem of the mandril. This mandril is held by a grip, attached by a hinge thereto in a stop, so as to allow of its being lowered and passed, after the conical bulb has been removed between the second series of rolls, the diameter of the groove of which is smaller than that of the first series. The tube, with the mandril still inside, is then passed through the third series of rolls, the groove of which is smaller than that of the second series. The object of these successive rollings, after the skelp has been welded on the mandril, is to remove any irregularities upon either of the surfaces, and to make the edges of the tube perfectly smooth and uniform. The tube is then taken to the drawing bench, in front of which is a stop, and against which the pipe rests. The stop is furnished with a hole to allow of the passage of the grip of the mandril, which is held by a pair of pliers; and the bench being made to move while the pipe remains stationary, the mandril is withdrawn. When it happens that the mandril adheres too tightly to the tube, it is proposed to heat it in a muffle or furnace, then to cool the end which rests against the stop, and repeat the above operation, or to roll it cold between three rollers, as is usually done in straightening shafting.

Axle Guards and Buffers.

A patent has been granted to *Charles De Bergue*, of Arthur street West, City, engineer, for "*improvements in carriages used on railways.*"—Granted January 5; enrolled July 5, 1848.

These improvements in railway carriages relate only to the axle-guards and boxes, and to buffers. The patentee constructs his axle guards in such a manner, that a wooden surface shall be presented as a guard for the axle-box (which is of cast iron,) to rub against. For this purpose he secures two uprights to the main framing of the carriage, at a distance from each other suitable for receiving the axle-box, which has a flange, its whole depth on each side embracing both sides of the uprights. These wood uprights forming the guard, are strengthened by plates of iron placed on each side, the width of such plates being less by the breadth of flange on the axle-box, than the wood against which they are bolted; thus the face of the axle-box slides flush with the face of the axle-guard. The upper parts of these plates are carried up the side of the frame, to which they are secured. The springs are of the kind previously patented, and consist of a series of India rubber rings, separated by plates of metal. This spring is placed between the uprights of the axle-guard, the bottom plate being supported by a vertical rod resting in a step on the axle-box, immediately above the centre of the bearing, being within the grease-box, which forms part of, and is cast in one piece with, the axle-box. The wood faces of the axle-guards and the chase in the sides of the axle-boxes must be rendered particularly smooth, in order to prevent abrasion of the surface of the wood. The second improvement consists of a mode of making the conical centres of plates used for separating the rings of India rubber in the buffer and other springs. In making these plates, the patentee forms a thin disc of metal of the required diameter, having a hole in the centre larger than is necessary, to go over the buffer-rod; he then incloses this plate in a suitable mould, in which is poured a quantity of soft metal, such as zinc and tin, in order to form the conical centre of such separating plates. The soft metal mould being larger in diameter than the hole in the centre of the plate, it consequently becomes securely imbedded in the soft metal centre, which is cast with an opening suitable to receive the buffer rod or other spindle, according to the purpose it may be intended for. The third part of this invention relates to what the patentee denominates a long-range buffing apparatus, which is applied to a van or truck placed between the engine and tender and the train of carriages, in order to protect the train as much as possible from violent concussion. The range of resistance in this apparatus is to the extent of several yards, and unlike other buffers, it is not attended by any recoil. The resistance is produced by the friction of straps passing over a drum, which straps are so arranged in connection with levers and a train of wheels, that as the force of the collision increases, the straps are tightened and the resistance is augmented.

Atmospheric Railway.

A patent has been granted to *William Froude*, of Darlington, Devon, civil engineer, for "*improvements in the valves used in closing the tubes of atmospheric railways.*"—Granted January 5; enrolled July 5, 1848.

The material which is employed in this invention for closing the split in the tube, is vulcanized India rubber; and the advantage proposed to be gained is the dispensing with any unctious substance for keeping the valve air-tight. Flat valve-seats are formed on each side of the slit, both of which are bounded by vertical flanges; the right angles formed by the vertical flanges and the valve-seats being rounded off, and the valve seats slightly recessed by shallow circular recesses, which thereby form the hinges or centres of motion of the valves. There are two valves employed, the lower portion is composed of plates of iron, of about eight inches in length each plate, the shape of the lower surface of which agrees in contour with the seat upon which it is placed; the one edge of the plates forming, with the shallow circular recess in the seat, the hinge or centre of motion. The other edge of the plates is nearly over the centre of the line of opening, thereby nearly meeting the edge of the opposite plate upon the other valve-seat. The under side of the plates over the aperture, is formed of the same curvature as the inside of the tube. The upper surfaces of these plates are flat, except that part over the aperture immediately adjoining the edge, where it is lower than the part over the seat. Upon these plates are placed a continued sheet of vulcanized India rubber, which extends from beyond the centre of the line of opening or aperture over the whole surface of the plates up the inner side, and also on the top of the vertical flange. The portion of the vulcanized India rubber sheets which are over the line of opening, are increased in thickness, and fill the whole of the depressed part of the plates, thereby forming at that part a thick pad. The upper surface of the vulcanized India rubber is covered with canvas. Above the vulcanized India rubber sheets are placed flat plates of iron, of similar length to those beneath and lying over them; they are securely rivetted together, thereby holding firmly between them the vulcanized India rubber. The vulcanized India rubber is secured to the side and top of the vertical flange by means of a series of iron bars, which are bolted to the flange, and which are to be about 15 feet long, which secures that edge of the valve air-tight, or nearly so. When the valves are firmly pressed upon their seats, the edges of the vulcanized India rubber pads in contact are below a line drawn between the centres of motion of the two valves, whereby the tendency of the elasticity of the pads will be to further press the valves upon the seat instead of raising them therefrom. The patentee proposes to employ, for the purpose of opening the valves for the passage of the bar connecting the piston apparatus with the carriages, a series of not less than five wheels placed in advance of the connecting bar, and the other at intervals of about two feet from centre to centre. After the passing of the connecting arm, the valves are lowered and closed over the opening by a wheel attached to the upper part of the connecting bar, or to the carriage, in such manner as to run over the valves, and thereby press them down upon their seats, where they are securely retained, and effect an air-tight, or nearly air-tight, joint.

Coal Instead of Wood for Locomotives.

A writer in the last number of the American Mining Journal, has the following remarks on this important subject; and we give them a place in the Journal, and ask his attention to the communication of Mr. Norris, with illustrations of a locomotive boiler, designed for burning anthracite coal. Mr. Norris thinks that he has succeeded, and we sincerely hope he has, in overcoming difficulties heretofore encountered in using this cheap and convenient fuel; and we desire to call the attention of those who are more competent than we are, to it. Examine it thoroughly, and give your views of it to the profession through this Journal.

If Mr. Norris has succeeded, as he thinks he has, he *deserves well* of the *entire railway interest* of the country, and we hope he may be remembered, and liberally patronized, in his new locomotive establishment, soon to be in operation at Schenectady, N. Y.

Desolation of New England Forests by the Modern Mastodon or Mammoth.

In the far west, the wild aborigines, and some geologists, perhaps quite as wild in their speculations, indulge in the tradition that the ancient mammoth fed upon forest trees, instead of eating grass like an ox, and in that way produced our present almost interminable prairies.

However this may have been we cannot say, but one thing is certain, that a devasta-

tion similar to that existing in the imagination of the Indian, is in reality fast spreading over the hills of New England; and the glory of her primeval forests and wondrous summits, will soon disappear forever. The monster committing these depredations, with the fleetest pace, traverses the whole length of our vallies, and like Behemoth of old, has "bones as strong pieces of brass, and bones as bars of iron." "The mountains brings him food" while "all the beasts of the field play" and gambol at his approach.

In short, so great is the destruction of trees and timber along our railroads, that the mournful song of "Woodman spare that tree," is already resounding from hill to hill; and some provident land owners have commenced planting forest trees for reproduction; justly fearing that our land, divested of her forests, like Sampson shorn of his locks, will soon become weak and powerless.

The time required for trees to obtain their average full growth for strength and durability, is from one hundred to one hundred and twenty years; for the purposes of fuel, not less than twenty-five to thirty years. For our railroad companies to think of making such dreadful havoc of our beautiful woodlands, is, in our view, improvident in the extreme, both for themselves and the country. The supply, certainly, in New England, will soon be exhausted, and they must then seek a substitute. What this substitute shall be, is a matter of vast importance to the railroad community, and the public at large. When the ocean came to be navigated with steamers, the great question was agitated, What is the most economical and appropriate fuel? The same question is quite as important in regard to our overland transportation. The cost of railroad fuel in the State of Massachusetts alone, the present year, will probably not fall much short of one million of dollars. But when we think of the roads and branches contemplated as finished, what an augmentation of fuel will they require! In and near the State of Connecticut there are, or will soon be completed, six parallel railroads, besides the "air line" already nearly finished from New York to New Haven. These roads are the Harlem and Hudson River, the Housatonic, the Naugatuck Valley, the New Haven and Hartford, the Norwich and Worcester, and the Stonington railroads. The State is also intersected by Connecticut river, whose shores have long supplied fuel for steamboats. The prospect of Connecticut is the complete destruction of her forests; and here it is that the inhabitants are wisely planting trees for reproduction.

Even in the interior of Pennsylvania, the Reading railroad, leading from Philadelphia to the coal region, last year consumed daily about two hundred and ninety cords of wood, (deducting Sundays,) through the year, making a sum total of more than ninety thousand cords, at a cost of more than three hundred and seventy thousand dollars. The amount of transportation effected by this consumption of fuel, was one million seven hundred and seven thousand nine hundred and sixteen tons. Assuming the Reading railroad to be one hundred miles in length, the same amount of wood burned on the large western steamboats, would have transported four millions three hundred and twenty thousand tons the same distance, against the mighty current of the Mississippi. By trial on board these boats, seven bushels of coal are found equal to one cord of wood, in generating steam. At this rate, allowing thirty bushels of coal to weigh a ton, twenty-one thousand tons of bituminous coal would effect the above amount of transportation; and at the rate of six dollars per ton, would only cost one hundred and twenty-six thousand dollars, instead of three hundred and seventy-one thousand, making a difference of two hundred and forty-five thousand dollars in the cost, and of course, in the profits or dividends. Now, as a single locomotive has been made to draw at once a burden of more than four hundred tons on the Reading railroad, I have no doubt that by the proper application of the proper fuel, these engines may be made to effect transportation overland nearly or quite as cheap as steamboats against the current of the Mississippi. But of this I design to speak more fully hereafter; and in the mean time, Mr. Editor, I desire you to furnish me the exact length of the Reading railroad, and also as many facts as possible relative to the fuel expenses of railroads generally, and much oblige Yours, truly,

A. R. R. Conductor.

Copper Smelting and Copper Mining.

A writer in the Pittsburg Gazette of 30th August says:

We visited, on Monday, the new furnace erected by Messrs. Hussey & Avery, stockholders in the Cliff mines of lake Superior, for the purpose of smelting their ore at home. The ore used is partly in the large native masses, some weighing several tons, and partly in the shape of what is called "stamp ings"—that portion of the ore intermixed with rock, being stamped or broken apart by machinery at the mines, washed clear of the rocky fragments, and barreled or otherwise packed for shipment. The ore is brought here by way of the lakes and canal, and landed just at the furnace, which is erected on the banks of the Monongahela, on part of Dr. Gazzam's farm, near the first dam. The ore yields, so the workmen inform us, from 80 to 90 per cent. of pure copper. The chief workman also informed us that the pickings of the ore alone yielded over three pounds of silver per diem, and a much larger amount of silver could be obtained, as soon as further arrangements should be made for separating the silver from the copper, (by a chemical process, we believe.) The process of smelting is a very interesting one to the spectator. Common bituminous coal alone is used in the furnace. The business seems to require very few hands, and they have a clean, pleasant kind of work, in the main. The copper, when ready for moulding, is ladeled into little iron moulds, which are suspended by a hiuge on an iron rod, running across a square cast iron vessel, filled with water. As soon as the metal has cooled a little in these iron moulds, they are tilted over so as to throw the copper into the water, where it cools, and is taken out in smooth ingots, in shape like a brick, and weighing from 14 to 18 pounds. The least pleasant part of the business seemed to be the pouring of the hot metal from the ladles into the moulds, and we were a good deal amused with the twitchings and ugly faces of one fine, burly looking workman, whose fear of being scalded by the spattering metal seemed to have ins origin in a little painful experience.

The business being but commenced, very little has been yet done in the way of erecting buildings, but the gentlemen engaged in the enterprise have ground sufficient to extend their operations as may be required. They have a pier running out into the Monongahela, with a crane for lifting the ore from the boats, and a neat railway for conveying it into the smelting room. Everything seemed to be working admirably. The furnace turns out about five tons of copper at a blast. The ingots look much more solid and smooth than any that we have seen before, and are of a very convenient size for handling.

We had supposed that the ore might be more profitably smelted at the mines, but owing to the scarcity of fuel, and the high price of labor at the ore beds, it is found advantageous to convey it here in the native state.

The following, from the Lake Superior News, of August 18th, will afford some criterion of the extent of the mining operations on lake Superior.

"The propeller Goliath, Captain Palmer, cleared from this port for Cleveland and Buffalo, on the 7th inst., with 256 tons of copper from the Cliff mine, of which 82 tons were consigned to Thomas M. Howe, Pittsburgh, via Cleveland, and 174 tons to D. Kenner of Baltimore, via Buffalo.

"The whole amount of copper that has been shipped this season from lake Superior up to this time, is 1,362,000 pounds of nearly pure copper."

Railroad Demands for Money.

We find the following article on this subject in the American Mining Journal of 29th August. The views therein expressed are sound, and entitled to respect—and we therefore commend them to the attention of those who desire to make good and improving investments.

An article appeared in the Boston Atlas a few days since, in which it seems to be assumed, that but for the railroad demands, the present condition of the money market would be easy and settled. That the calls for money on the part of the railroads, add to the existing embarrassments, there can be no doubt; but this is true of every interest or branch of business requiring the continued use of capital to sustain it or carry it on. The more multiplied and extended these interests and branches of business, the greater and more complicated are the evils which a derangement in the money market occasions, and the more difficult is it to bring about a restoration to a healthful condition of things. The removal or obviating of any single difficulty experienced, is only a mitigation or lessening of evils, but cannot operate as a general remedy. It is, as when the whole

system is effected with disease—a relief of any one part may check its violence and intensity, but no radical cure is effected until soundness and health is restored to every part.

To seek, therefore, an explanation of a state of things produced, in that which is a consequence merely thereof, is as unphilosophical as it is to attribute that for a cause, which results only as an effect.

It is not our present purpose to inquire what are the causes which have led to the derangement in the money market, as it now exists. We only propose to offer a few considerations which, in our opinion, tend to establish the fact, that the large investments of capital in railroads have had no productive agency in this derangement. It is impossible so to apportion out the capital of a country as to assign to every interest and branch of business its own proper and distributive share. This is a matter, however, which regulates itself; or is conformable, rather, to those laws of business and trade by which the relations of various interests are determined and governed. No particular business can absorb a greater amount of capital than properly belongs to it, in the observance of these relations, without occasioning an over action that is injurious to itself, and becoming a general disturbing cause. The injury resulting to itself is, that the business ceases to yield a profit on its capital employed, and is clogged by its own undue enlargement. The disturbance it occasions to other interests, arises in the withdrawal from them of a portion of that vitality upon which their healthful condition depends. There are other causes than the unequal absorption of capital by some particular business, that often lead to a derangement in the money market, and affect injuriously the general interests. Foreign competition, growing out of the unequal laws of trade, and the want of protection to some home interest, may, and frequently does, occasion it. The mere fact, therefore, that any business ceases to be profitable, is not conclusive evidence that it has been extended beyond its proper relations to other interests, and by overdoing, has brought about an unhealthy condition of things. The disturbing force may be from abroad—and the evil lie in some defect of government policy. But when, during such a derangement, it is found that there is any business not so far depressed thereby, but that it continues to yield a profit on its capital, there can be no other conclusion, than that such business has had no agency in causing the derangement, and is not carried beyond its proper equilibrium. Now, how is the fact in regard to the railway interest? Has it been extended so out of proportion to other interests that an unfavorable reaction has taken place, and any serious falling off in its revenues resulted? On the contrary, at a period when almost every other kind of business has been depressed, and in part suspended, in part carried on with loss, and in part kept up with little or no profit, has not this continued prosperous, netting as large receipts, and paying about the same dividends as heretofore?

We have made up the following table from the returns to the legislature of this State in 1848, of the several railroads then in operation, in order to show the amount of capital vested in them, their net receipts, and the dividends paid by each.

Roads.	Capital.	Net receipts.	Div's.
Berkshire.....	600,000 00	42,000 00	7
Boston and Lowell and br.....	1,809,000 00	195,147 24	8
Boston and Maine and branch.....	2,601,391 52	291,245 04	9
Boston and Providence and br...	2,520,000 00	187,982 53	7½
Boston and Worcester and br...	3,500,000 00	340,184 69	10
Connecticut River and br.....	800,900 00	52,415 67	7
*Dorchester & Milton.....	74,265 22		
Eastern and br....	2,650,000 00	264,757 38	8
Fall River.....	1,050,000 00	33,367 89	3
Fitchburg.....	2,116,100 00	223,010 92	10
†Lexington and W. Cambridge.....	200,000 00	8,834 11	
Nashua & Lowell.	500,000 00	60,398 04	10
New Bedford and Taunton.....	400,000 00	44,120 78	8
Norwich and Worcester.....	1,653,500 00	38,037 25	none.
Old Colony.....	1,199,300 00	84,133 35	7½
Pittsfield & North Adams.....	443,000 00	8,176 71	
‡Providence and Worcester.....	1,100,000 00		
Stoughton br. road.	85,600 00	6,128 52	3
Taunton br. road..	250,000 00	28,214 93	8
West Stockbridge.	39,600 00	1,700 81	
Western.....	5,150,000 00	302,000 00	8
	28,633,656 74	2,207,345 86	

It will be seen from the above, that the total amount of capital invested in the railroads lying wholly or in part within this State, and in operation, is $28,633,656 74, and that the amount of net receipts or profits, of these roads the last year, was a little more than 7 per cent. on the capital. The amount of capital paid in on roads not completed, as appears by the same returns, is 3,808,014 88. This makes the total amount of capital paid in as such, invested in railroads lying either in whole or in part in this State, to be, $32,441,671 62—on which capital there is an average profit of nearly 7 per cent. But to this amount there should perhaps be added some seven or eight millions of debt, owing by the different companies. As, however, the interest on this, is paid out of the gross receipts, and estimated as expenses, it is not considered as part of the permanent capital, the profits of which are dependent upon the earnings of the road. Such was the condition of the railway interest in this State at the close of the year 1847. During the first half of the present year there was no material falling off in the receipts of any of the roads enumerated in the table above, while on the part of some there has been a very considerable increase. A few of the roads not completed at the time of making up the last annual returns, have since gone into operation, and with two or three others but then recently opened, have been realising very handsome earnings. The capital invested has in the mean time been enlarged by subscriptions to new stock created by a few of the older companies to enable them to pay off certain floating debts and to make further improvements in their roads and furnish increased facilities for doing business and also by the assessments called in on the part of those roads which are in process of construction but not yet completed. The additional revenue must however, be very nearly proportionate to this enlargement of capital, so that the present relative condition of the railway interest cannot vary in any essential dedree from what it was at the close ef last year. If any other proofs were wanting that there has been no actual falling off in this interest, it might be found in the fact that no class of stock stands better in the market than railroad stocks. They have been found to be secure investments, yielding their increase during a period of great pecuniary embarrassments, and therefore the public confidence in them remains unshaken. At the very height of the pressure, the rights to take new stock in some of our leading roads have been sold at a premium.

Now, what other large interest is there in our commonwealth that can make such a favorable exhibit of its condition as this; that on the *whole amount* of its capital employed, has, within the last twelve months, derived a revenue of not less than six per cent? And what stronger evidence could be furnished than is presented in the foregoing facts, that the railroad interest has not yet been extended beyond the limits of its relations, and the general business of the country? If it be objected that the statements above have been taken from the railroads in Massachusetts alone, and are, therefore, limited and partial, we would reply that the amount of capital invested in them is not only relatively but actually larger than that invested in the same interest in any other State, and if the business is overdone any where it is here. We have no doubt it would be found, if the facts could be arrived at, that the condition of the railroad interest throughout the whole country is as prosperous now as it has been at any period. And yet, it experiences of the effects attendant upon the money pressure and the general decline of business, and though it has not fallen off, still it has not the growth which would belong to it in a more prosperous condition of things. The difficulty in raising money at the present time is felt by the railroad, as it is by all other interests;—but this difficulty arises, not from any diminution of the railroad revenues, but because the other usual sources of income, or many of them, are cut off. There is a large capital employed in different kinds of business, that yields no profit. Manufacturing stocks are paying no dividends; the receipts of trade have greatly fallen off, and the shipping interest does not meet its ordinary returns.—The expectations of capitalists are, therefore, disappointed, and pecuniary engagements, which have to be met, are met with difficulty and at great sacrifice. Whatever may be the remedy of this state of things, it is not in the abandonment or cutting down of those interests which are of the present contributing sources to the country's wealth.

* This road is run by the Old Colony railroad Co.
† Run by the Fitchburg railroad company.
‡ Not completed till October, 1847.

English Railway Stations.

The cost of some of the English railway stations is truly enormous. We find in a late Railway Chronicle the following account of the extension of the South Western railroad into the city.

London and South Western—(Waterloo Bridge Extension.)—This undertaking was commenced in July, 1846, the contract having been taken by the Messrs. Lee, who engaged to complete it by the 1st of July, 1848. The length of the new line is nearly 2¼ miles.—The first quarter of a mile is carried over an embankment, then succeeds a viaduct, consisting of six massive iron girder bridges and 300 arches (exclusive of those forming the present station in the Waterloo road.) These arches, which are expected to form a very considerable item in the receipts of the company, have been so carefully constructed as to be easily applicable to various purposes, and their perpetual dryness has been insured by the application of the Seyssel asphalte, which has rendered them impervious to wet. There are four distinct lines of rail, and the quantity of iron alone consumed in laying down what is technically called the 'metals,' is at least 1200 tons, independently of about 800 tons weight consumed in the erection of the bridges. In the construction of the viaduct and station in Waterloo road, upwards of eighty millions of brick have been consumed; and the present terminus, which is all on arches, covers a space of three quarters of an acre of ground, its width being 260 feet. The major part of the present terminus has been coated with asphalte, so that the arches on which it rests may with safety be made use of as storehouses, etc. The whole of the permanent way is laid down and ready for the trains to traverse; but the stations, both at the Waterloo road and Vauxhall, are not thoroughly completed, although, being for the most part wooden erections, their completion may be considered as certain at a short lspse of time. To the present terminus in the Waterloo road there are no less than four approaches for carriages and foot passengers, the pedestrians having in each approach paths 8 feet in width. At Vauxhall station, there will be two entrances. The stations at both Waterloo road and Vauxhall will be only temporary. The fares on the main line are to be increased as follows: first class, 6d.—second class, 4d.—third class, 2d. The trains will run at the present fixed times.—Nine Elms station is to be closed entirely to passenger traffic.

Tubular Bridges--Who is the Inventor?

We referred to this subject in a former number, and gave Mr. Robert Stephenson's statement on the subject. We now give Mr. Fairbairn's statement, from the "Manchester Guardian."

To the Editor of the Mrnchester Guardian:

Sir—It is with feelings of sincere regret that I conceive myself called upon to reply to a letter of Mr. R. Stephenson's, which appeared in your paper of Saturday last, in answer to a previous communication from Mr. Bateman. To the latter gentleman I am deeply indebted for the zeal with which he has voluntarily come forward in defence of my reputation with reference to the construction of the Conway and Britannia bridges, and I cannot but lament the necessity which existed for his friendly interference. The statements contained in Mr. Bateman's letter of the 24th ult. are perfectly correct, and, whenever the time arrives for such a purpose can be distinctly proved. Mr. Stephenson's extract from my letter of October 27, 1846, fully confirms that part of Mr. Bateman's which accords to him the merit of the "original idea." Here I must, however, stop, and in justice to myself maintain that the working out of the idea, and the development of the principle, as well as the greater portion of the construction, are the results of my labors. In carroboration of these facts, I may further state, that the original idea was a cylindrical tube, to be supported by chains, to which I was always opposed, and which, I think, I can prove would not have succeeded. In fact, it was only by a long series of inductive reasoning, founded upon experimental research, that the present strength and form of the Conway and Britannia tubes were established. That these researches are my own, and that the conclusions based upon them have been acted upon, cannot be denied; and I am satisfied that if Mr. Stephenson would reconsider the matter, and allow his feelings fair play, he would admit the fact.—The publication of the correspondence, should such a step be found necessary, will, however, prove the accuracy of these statements, whether admitted now or not. As respects that part of Mr. Stephenson's letter wherein he states, "that the company looked to him alone as responsible," I have only to observe that I was appointed by the directors joint engineer with Mr. Stephenson for the construction of the bridges. The risk which an engineer runs in incurring responsibility, is the loss of his professional reputation: I am bold enough to imagine that I am not without one; and surely, if the bridge had turned out a failure, my reputation would have suffered as well as Mr. Stephensons.

W. Fairbairn.

Manchester, June 7th.

Give *merit* its due—and not all to the first officer.

ENGLISH RAILWAY STATISTICS.

For 1846, 1847 *and* 1848.—*By Hyde Clarke, Esq.*

We find the following statistics in the Civil Engineer and Architect's Journal for August. It contains facts of great interest and practical utility, which ought to be understood by the people of this country, that they may *know* that their hard earnings will be safe when invested in the construction of railroads, *judiciously located, and well managed.*

There is much truth in the remarks of the writer, that "the actual increase of traffic, depends upon the length of time given for its developement." It cannot be expected that in *one*, or *two*, or, in *some* instances, *half a dozen* years, the business of a region can be fully developed; yet *time* is sure to do it, and the *increased value* of property will be, in most cases, fully equal to the outlay upon the improvement, over and above the dividends.

It is not only the increased convenience afforded for the transportation of passengers, and merchandise, and coals, but also the great advantage to be derived by the people of large cities, in receiving their provisions from distant regions of the country, in a much more perfect condition, and without the usual loss attendant upon the old modes of getting them to market. This is forcibly illustrated by that part of the article relating to the cattle traffic. It is there stated, that the *saving* on the cattle, sheep, and swine, in 1846, by transporting them on railways, instead of driving them as formerly, was 41,800,000 lbs.! and that the *feed* saved by the same change was 43,800,000 lbs.!! which alone would *sustain* a population of over 50,000 people, and far more comfortably than a large portion of the Irish people are now sustained.

We publish this statement entire, notwthstanding its length, as it is calculated to illustrate forcible the working of *our* railroad system, after a few more years of experience; and we therefore ask for it the attentive perusal of all who may be so fortunate as to see it.

☞ Possibly our friends of the *press* would do their readers good service by re-publishing extracts from it.

CONTRIBUTIONS TO RAILWAY STATISTICS.

No. 1, *Passengers and Fares.*

Having published an analysis of the railway returns for 1845, I have taken the earliest opportunity after the appearance of those for 1846 and 1847, of giving a similar analysis of them, under the same title of "Contributions to Railway Statistics," which I hope may prove equally acceptable to practical men as the former series.

The followlng are the totals of each class of passengers in the years ending 30th Jnne,

Class.	1844.	1845.	1846.	1847.
1st..	4,875,332¼	5,474,163	6,160,354¼	6,572,714
2d..	12,235,686	14,325,825	16,931,065¼	18,699,288¼
3d..	8,583,085¼	13,135,820	18,506,527¼	22,850,803¼
mix	2,069,498¼	855,445¼	2,193,126	3,229,357
Tot.	27,763,602¼	33,791,253¼	43,790,983¼	51,352,163

The amount received for each class, in each year, was as follows:

	1844.	1845.	1846.	1847.
1st class..	£1,432,688	1,516,805	1,661.898	1,675,759
2d class..	1,375,679	1,598,115	1,937,946	2,048,080
3d class..	483,069	651,903	1,032,206	1,286,710
Mixed....	147,858	209,518	93,164	146,733
Altogether..	3,439,294	3,976,341	4,725,215	5,148,002

The yearly increase in numbers on each class of passengers is as follows:

	1845.	1846.	1847.
1st class....	12 per cent.	12 per cent.	7 per cent.
2d class....	17 "	18 "	10 "
3d class....	50 "	41 "	23 "
Altogether..	21 "	24 "	17 "

The yearly increase in money on each class of passengers is as follows:

	1845.	1846.	1847.
1st class....	6 per cent.	9 per cent.	.. per cent.
2d class....	16 "	21 "	7 "
3d class....	34 "	58 "	24 "
Altogether..	16 "	18 "	9 "

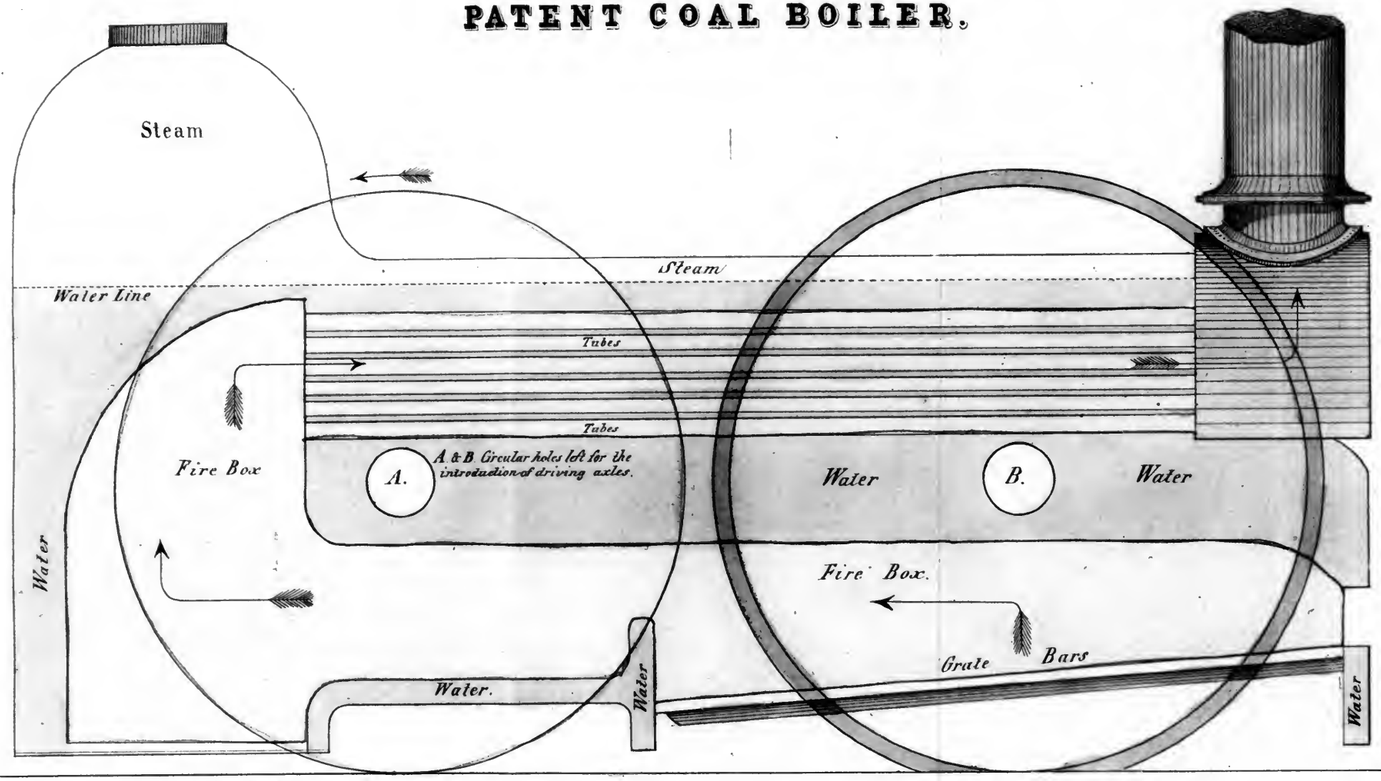
It is to be observed that no deductions can be drawn from these figures, as the railway department returns are defective and informal.

The gross returns in each year from passengers, goods, etc., were as follows:

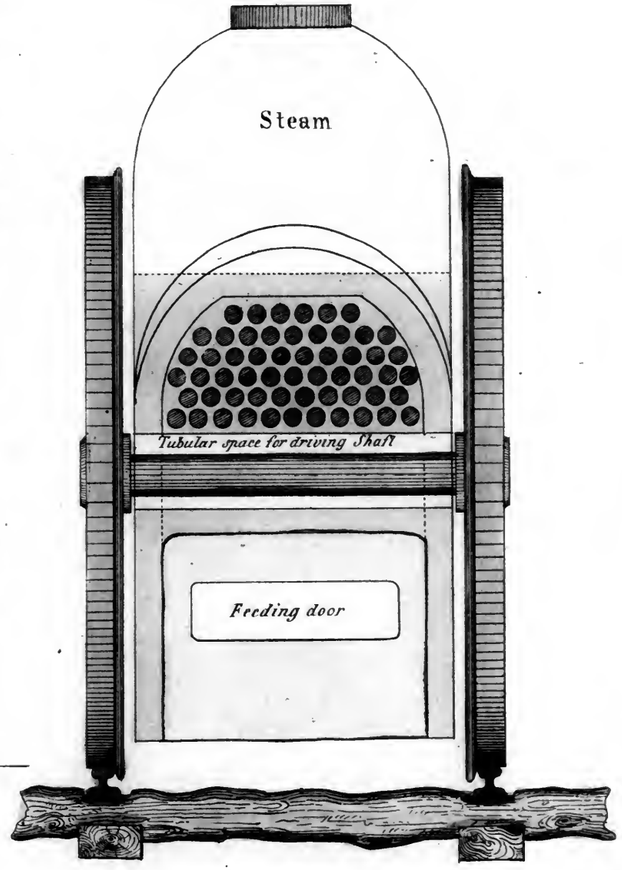
1842–3.....	£4,535,189
1843–4.....	5,074,674
1844–5.....	6,209,714
1845–6.....	7,565,569
1846–7.....	8,510,886

According to Mr. Hackett, in Herapath's Railway Journal, the receipts for the years ending 31st December, have been as follows:

PATENT COAL BOILER.



Scale One half Inch to the foot



Boiler for Burning Anthracite Coal.

4 Drivers 8 feet diameter — Grate Surface. 34 Square Feet which is 19 feet more than any yet in use.
2 Cylinders 16 X 26
57 Tubes, 12 feet 3 inches long, 3 inches diameter

Fire surface of Tubes = 78, 970 Square inches
do do Fire Box = 29, 153. " "
Total 108, 123 fire surface.

The above Fire surface will give 10 $\frac{34}{100}$ Square inches of fire surface.
For every Cubic inch area of Cylenders which is 2 $\frac{34}{100}$ above Standard.

Lith. of P.S. Duval, Ranstead Place, Phil.ª

1842.....	£4,341,781
1843.....	4,827,655
1844.....	5,584,982
1845.....	6,649,224
1846.....	7,664,874
1847.....	8,949,681
For the year ending 30th June, 1848.....	9,423,963

Mr. Hackett's totals are taken from the traffic returns published in Herapath's Journal, and do not include many small companies which make returns to the railway department.

The following will show the totals of the railway department and of Mr. Hackett for the same period:

	Railway depart.	Mr. Hackett.
1842-3....	£4,341,781	£4,530,501
1843-4....	5,074,674	5,114,575
1844-5....	6,209,714	6,065,956
1845-6....	7,565,569	7,159,562
1846-7....	8,510,886	8,194,767
1847-8....	.....	9,423,963

Except in the first two years, it will be seen that Mr. Hackett's totals are below those of the railway department, for the reason already given.

1844-5.....	£142,858
1845-6.....	406,007
1846-7	316,119

These figures show that any error in Mr. Hackett's figures must be on the safe side;—and if we take the difference for the year '47 and '48, at £300,000, this will give as the gross yearly traffic for the year ending 30th June last, £9,700,000, or nearly ten millions sterling.

The increase in passenger receipts in each year is as follows:

1844-5.....	£537,047
1845-6.....	748,874
1846-7.....	422,787

The increase in the number of passengers in each year, stands thus:

1844-5.....	6,027,651
1845-6.....	9,999,730
1846-7.....	7,561,180

The gross increase of revenue in each year stands thus:

1844-5.....	£1,135,040
1845-6.....	1,355,855
1846-7.....	945,317
1847-8.....	1,200,000

Mr. Hacket has shown (Herapath's Journal, 3d series, vol X, p. 33,) that the number of miles of railway on which his figures are taken, and the average traffic per mile are as follows:

	Miles.	Miles opened.	Traffic per m.
1842.....	1532	...	£3,036
1843.....	1586	59	3,081
1844.....	1780	194	3,283
1845.....	2043	263	3,500
1846.....	2610	503	3,288
1847.....	3449	839	2,862
1847-8...	3830	381	2,719
(Half-year.)			

The last line has been made up from other data.

The capital expended on railways has been likewise given by Mr. Hacket, from which we can learn the amount expended in each year.

1842..	£52,380,100	whole capital,	.... expended.
1843..	57,635,100	"	£5,255,000 "
1844..	63,489,100	"	6,844,000 "
1845..	71,646,100	"	8,157,000 "
1846..	83,165,100	"	12,519,000 "
1847..	109,528,800	"	26,363,700 "

The total amount of railway expenditure from 1842 to the end of 1847, was £57,548,700.

The total amount of railway income in those years has been—

1842.....	£4,341,781
1843.....	4,827,655
1844.....	5,584,982
1845.....	6,649,224
1846.....	7,664,874
1847.....	8,949,681
Add from railway returns.	865,984
Altogether	38,884,181

Of course the whole of this income cannot be treated as real capital, no more can the whole of the expenditure: but it is a significant fact, that while the whole expenditure has been £57,548,700, the whole income has been £38,884,181, or more than two thirds of that amount. This is deserving the attention of those who direct their attention towards the subject of railway capital.

It may be noted upon the decrease in the milage receipts, that it is to be accounted for from the greater economy in working expenses allowing of lower fares, and from the progress of railway improvement allowing lines to be more cheaply constructed. It will be found that the net return is not less in 1847 than 1842.

In 'Irish Wants and Practical Remedies,' by Humphrey Brown, Esq., M. P., p. 63, is given a table of the estimated passenger and goods traffic of several English lines, as given before the House of Commons. This I have extended as follows:

	Length in miles.	Passengers.	Goods. Tons.
Midland.....	163¼	550,985	151,845
Lancashire and Yorkshire.	79	207,688	109,486
York and North Midland..	27¼	185,660	5,547
London and Brighton.....	50	226,444	43,765
London and South Eastern.	67	317,252	63,079
Great North of England...	45	73,158	32,136
Great Western, and Bristol and Exeter.....	231	821,145	209,563
Lancaster and Preston.....	20	106,957	....
Glasgow and Ayr.....	18¼	597,470	121,027
Hull and Selby.....	31	19,562	93,873
London and Cambridge....	57¼	591,344	72,214
Dundee and Arbroath.....	16¼	200,727	51,899
Sheffield and Manchester..	44¼	335,444	84,050
Altogether.....	851¼	4,135,836	1,038,504

The traffic realised on the above lines in 1845 was as follows:

	Passengers.	Goods traffic.
Midland.....	1,809,145	715,272
Lancashire and Yorkshire.....	1,674,946	507,859
York and North Midland.....	464,755	351,022
London and Brighton.....	788,386	65,747
London and South Eastern.....	728,896	87,119
Great North of England.....	196,722	234,198
Great Western and Bristol and Exeter.....	1,993,088	209,563
Lancaster and Preston.....	135,344	26,099
Glasgow and Ayr.....	843,078	168,376
Hull and Shelby.....	263,402	227,869
London and Cambridge*.....	534,206	44,572
Dundee and Arbroath.....	269,187	81,484
Sheffield and Manchester*.....	1,168,448	32,000
Altogether.....	10,868,503	2,751,180

* Partially opened.

The results are as follows:

Estimated traffic on 851 miles..	4,135,836	1,038,504
Realised traffic, 1845.....	10,866,503	2,751,180
Excess over estimates.....	6,732,667	1,712,676
Increase per cent.....	160	170

In Mr. Brown's book, on a length of 702 miles the same increase of per centage is shown, viz: 160 per cent on passengers, and 170 on goods,

The whole traffic in 1845 was 33,791,253½ passengers, and of goods, etc., 11,600,000 tons. Supposing the proportions to be the same, the number of passengers carried in 1845 more than was provided with means of conveyance before the existence of railways, was 20,800,000, and the number of tons of goods conveyed was 7,200,000. Thus the railways not only accommodated the full number of passengers for whom conveyances already existed, but carried the above enormous number in addition, besides a great quantity of goods. It will be found that this calculation however is far from representing the amount of accommodation now afforded.

Taking the later returns, where they are available, we shall find the increase still greater, s in 1846, for instance:

	Passengers.	Goods. Tons.
Midland.....	2,468,110	900,895
Manchester and Leeds.....	2,157,173	523,177
York and North Midland, and Hull and Selby.....	933,514	370,414
London and Brighton.....	971,081	93,407
London and South Eastern.....	1,074,730	116,385
Great North of England.....	329,587	433,867
Great Western, etc.....	2,757,193	300,000
Lancaster and Preston.....	162,012	25,585
Glasgow and Ayr.....	1,091,371	293,304
London and Cambridge.....	922,413	110,348
Dundee and Arbroath.....	317,092	21,059
Sheffield and Manchester.....	1,604,227	135,000
	13,718,503	3,530,441

In 1847 there were separate returns from some of these lines, as the following:

	Passengers.	Goods. Tons.
Great Western, etc.....	2,876,222	371,326
Glasgow and Ayr.....	992,096	397,515
Lancaster and Preston.....	106,475	22,054
Dundee and Arbroath.....	360,194	22,354
Sheffield and Manchester.....	1,579,707	218,740
South Eastern.....	1,077,892	204,100

The increase over the estimates on the traffic of 1846 is still greater than on 1845.

	Passengers.	Goods. Tons.
Estimated traffic.....	4,135,836	1,038,504
Rralised traffic, 1846.....	13,718,503	3,530,441
Excess over estimates.....	9,572,667	2,492,937
Increase per cent.....	230	250

The traffic on these lines stands as follows:

	Passengers.	Goods. Tons.
Estimated.....	4,135,836	1,038,504
Realised, 1845.....	10,868,503	2,751,180
" 1846.....	14,078,697	3,530,441

The lines for which there are separate returns in 1847 are as follows:

Great Western.....	231 miles.
Glasgow and Ayr.....	18¼ "
Lancaster and Preston.	20 "
Dundee and Arbroath.	16¼ "
Sheffield & Manchester	44¼ "
	297¼ miles.

The traffic stands thus:

	Passengers.	Goods. Tons.
Estimated.....	2,378,995	529,618
Realised, 1845.....	5,138,041	604,641
" 1846.....	7,006,625	891,333
" 1847.....	7,382,586	1,236,081

The actual increase of traffic depends upon the length of time given for its developement, beginning at 160 per cent. and going up to 230 per cent., and in the case of the selected railways even more. Taking the increased accommodation to passengers at 160 per cent., this would give the following as the increased number of travellers provided with travelling accommodations in each year.

1844.....17,400,000
1845.....20,800,000
1846.....27,000,000
1847.....30,000,000

If the proportion be taken at 200 per cent, the number accommodated by railway, for whom no accommodation was before provided, would be 34,000,000.

The following shows the proportion of traffic on railways in each year for which accommodation by coach, etc., was provided, and for which no accommodation by coach, etc., was provided:

	Travellers from old coaches, etc.	New travellers.
1844....	10,300,000	17,400,000
1845....	12,900,000	20,800,000
1846....	16,000,000	27,000,000
1847....	21,000,000	30,000,000

Reckoning that each passenger is on the average carried 20 miles, each male adult in this country will be carried that distance six times in the year—an extent of accommodation which must have a great effect on trade and on the distribution of labor.

It appears from the averages given in the returns of the railway department, that there has been a still further reduction in fares on most of the lines, and an increase in the average speed per mile.

The total increase on each class of passengers is as follows:

	1845.	1846.	1847.
1st class.....	599,831	686,191	412,460
2d class.....	2,190,139	2,615,240	1,768,223
3d class.....	5,552,735	5,471,707	4,344,376
Altogether....	6,028,651	9,999,730	7,561,180

It is to be observed that these figures cannot be absolutely relied upon, as the proportions of each class cannot be fully shown, on account of the confused state of the returns published by the railway department.

The total increase on each class of passengers between 1844 and 1847 has been as follows:

1st class.... 1,697,382
2d class.... 6,463,603
3d class.... 14,267,718
Altogether.. 23,588,561

This is probably more than the whole traffic of the country in 1825, and it shows at any rate that there has been a great increase in the accommodation given to the working classes.

The number of first, second and third class passengers in 1847 on the leading lines was,

	1st.	2d.	3d.
London and N. West.	1,112,970	3,323,380	2,163,285
South Eastern.....	657,380	1,493,142	2,008,230
Midland.....	445,260	1,260,312	2,571,826
London and Blackwall	858,201	2,279,166	.....
Lancashire & York're	216.791	581,790	2,090,624
Great Western.....	459,734	1,996,824	419,663
London and Brighton	425,948	699,898	1,489,985
Dublin and Kingst'n.	154,889	1,269,092	814,969
Eastern Counties....	287,526	741,846	1,044,168
South Western.....	399,776	1,095,050	472,482
Manch. and Sheffield.	82,201	151,606	1,335,900
York and Newcastle.	152,083	753,927	643,203
York and N. Midland	163,837	309,782	731,207
Newcastle and Berw.	67,734	174,890	944,891
Edinb'g and Glasgow.	105,373	206,485	836,025

On the London and North Western, Great Western, South Western and York and Newcastle, the proportion of third class passengers is much below the regular proportion.

The largest receipts from passengers in 1844 are—

London and North Western.....	£1,173,798
Great Western.....	674,241
Midland.....	567,126
South Eastern.....	335,764
Brighton.....	314,493
Eastern Counties.....	296,393
South Western.....	286,273
Lancashire and Yorkshire.....	184,762
York and North Midland.....	165,434
York and Newcastle.....	147,252
Edinburg and Glasgow.....	112,582

The largest amounts received for 1st class passengers are—

London and North Western.....	£513,795
Great Western.....	232,854
Midland.....	178,434
Brighton.....	124,220
South Eastern.....	117,659
South Western.....	97,689
Eastern Counties.....	93,304

The largest amounts received for 3d class passengers are—

London and North Western.....	£209,890
Midland.....	153,354
Lancashire and Yorkshire.....	90,282
South Eastern.....	85,403
Great Western.....	77,129
Eastern Counties.....	74,234
York and North Midland.....	65,507

To be Continued.

TO CONTRACTORS.

SEALED proposals will be received at the office of the Lafayette and Indianapolis Railroad Co. in Lafayette, until the 11th day of October next, for the Grading, Masonry and Bridging of that part of said road lying between the summit south of Durkee's Run, near Lafayette, and Lebanon, in Boone county, about 34 miles. Also, for the wooden superstructure for the same, in a distinct bid.

Plans and specifications will be exhibited by the engineer. By order of the Board.

ALBERT S. WHITE, Pres't.

Lafayette, Aug. 17, 1848. 6t35

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.

August 5, 1848—3m*

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS

OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS, } SPRINGFIELD, MASS.

1y48

RAILROAD SCALES.—THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
:y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHville and Chattanooga Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Plaining*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at
39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

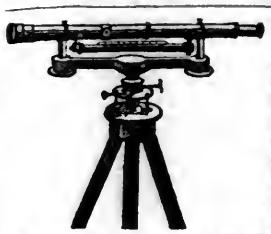
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T.
Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE
Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH
for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

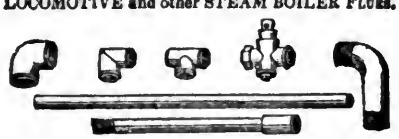
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



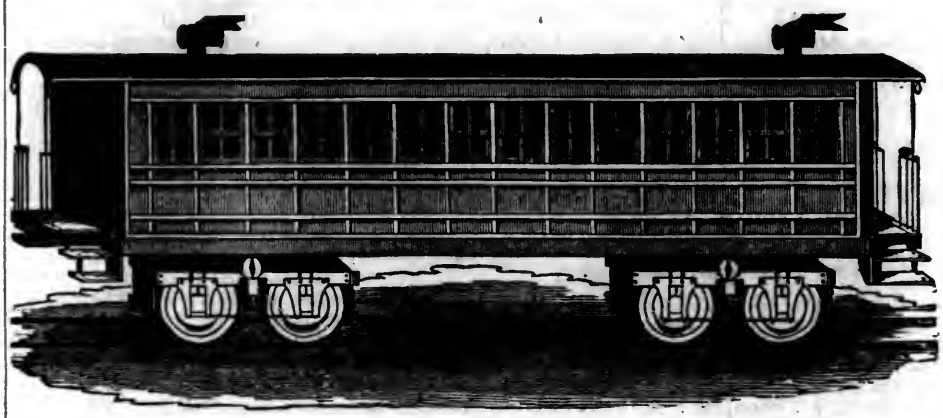
Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT.
This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO
execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

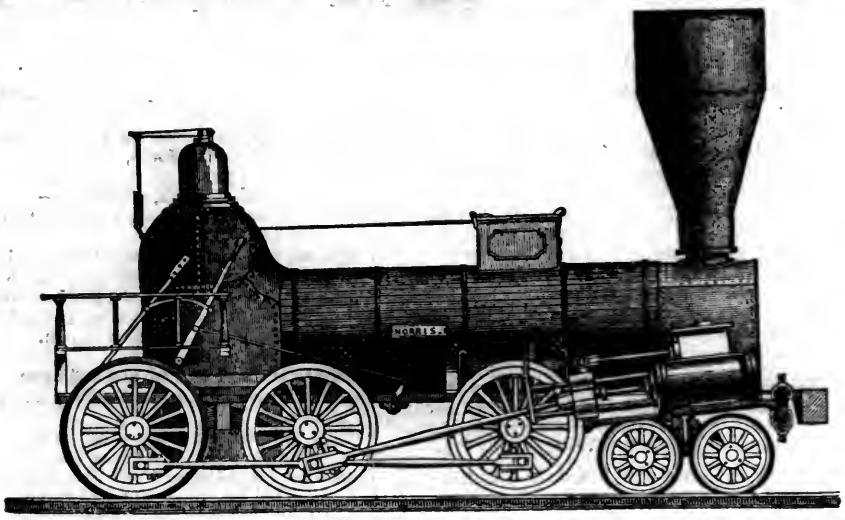
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

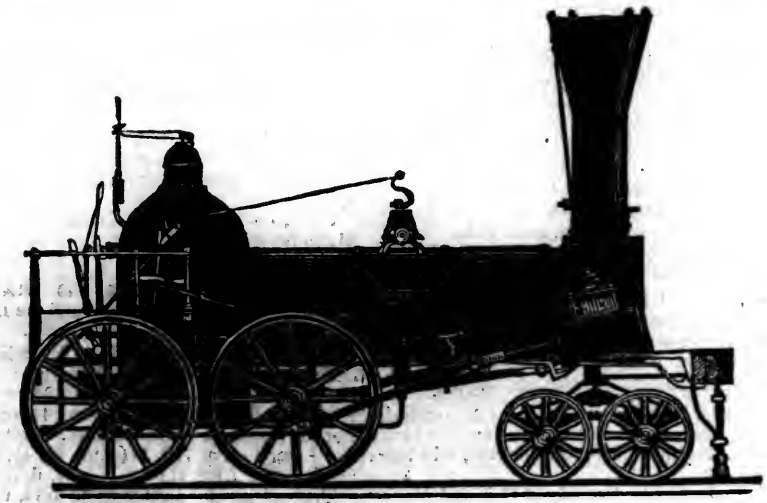
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia. April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves....Albany....	7½ A.M..	2 P.M..	7 P.M.
Pass..... Utica.....	1 P.M..	7½ P.M..	1½ A.M.
Pass..... Syracuse...	4½ P.M.	11 P.M..	5 A.M.
Pass..... Auburn....	6½ P.M..	1 A.M..	7 A.M.
Pass..... Rochester.	12½ M.N..	7 A.M..	1 P.M.
Arrives at. Buffalo....	5½ A.M.	12 M....	6 P.M.
Going east.	**1st train.**	**2d train.**	**3d train.**
Leaves....Buffalo....	7½ A.M..	2 P.M..	7 P.M.
Pass..... Rochester.	12½ M....	7 P.M.	12 M.N.
Pass..... Auburn....	6½ P.M..	1 A.M..	6 A.M.
Pass..... Syracuse...	8½ P.M..	3½ A.M..	8 A.M.
Pass..... Utica.....	12 M.N..	7 A.M.	11½ A.M.
Arrives at. Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.


Summer Arrangement.


Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

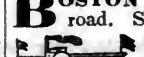
The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAIL-

road. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:




Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAILROAD. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3 00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

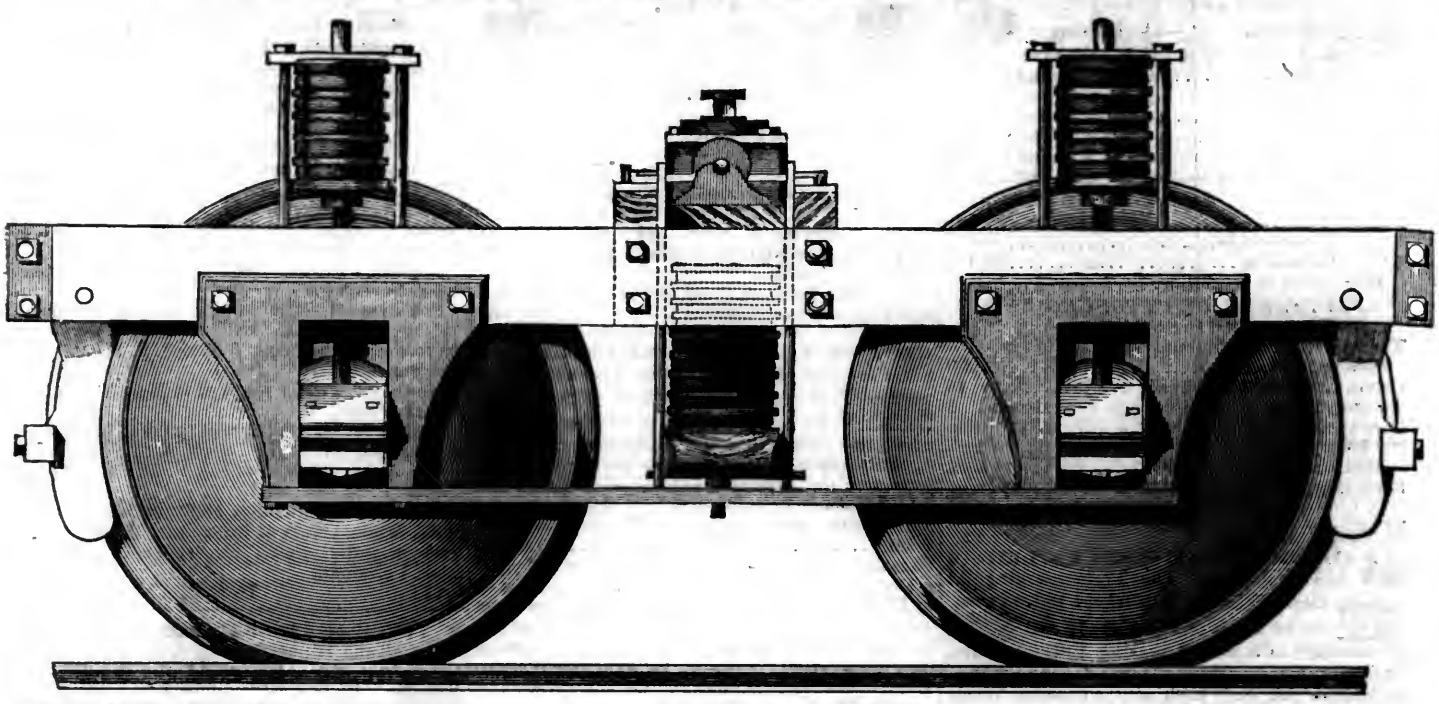
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with F. M. RAY, 100 Broadway, or with WM. RIDER & BROTHERS, No. 58 Liberty street, New York.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. & W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 38] SATURDAY, SEPTEMBER 16, 1848 [WHOLE No. 649, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, September 16, 1848.

☞ REMOVAL.

The Office of this Journal is removed from the *Franklin House*, to No. 48 SOUTH THIRD STREET, *third door north* of the *Girard Bank*.

⁂ A *special request* is hereby made, to those to whom Circulars have been recently addressed, that they will respond promptly to them, as an important question—to *us* at least—is to be decided in accordance with the response given to the request made in those circulars.

Hammered Car Axles.

Some attention having been attracted to the question whether rolled car axles may be used with safety, a note was addressed by Messrs. Andrew Taylor & Co., (manufacturers of hammered axles, in Reading, Pa.,) to G. A. Nicolls, Esq., the superintendent of the Philadelphia, Reading and Pottsville railroad, making some inquiry as to their relative merit. The following is the reply, which being of general interest, we publish.

"*Reading, Pa., August* 12, 1848.

MESSRS. ANDREW TAYLOR & Co.,

Gentlemen—I have just received your favor of today, asking my opinion on the subject of hammered and rolled iron for railroad axles.

After an experience of about 12,000 axles, both hammered and rolled, used on our engines, tenders, coal, freight and passenger cars, for some years past—we give a decided preference to the *hammered axle*, and have used no other description for four or five years past.

Having erected machinery for the purpose, we make our own axles, of hammered iron altogether; we have received no other kind in any engines or cars built by contract during the period just stated.

No difference in cost, however great, could induce us to use the rolled axle.

I am very respectfully yours,

G. A. NICOLLS,

Eng., etc., Reading Railroad."

Patent Coal Boiler.

By an oversight, the article in relation to this boiler in our last number, was commenced on the wrong page. It should have commenced on page 584, instead of 578—and the beautiful lithograph print should open to the right—and then it would be convenient to the reader—but even as it is, we feel quite sure that both will be found, read and examined with care—and we hope soon *tested* in the most thorough manner. It should have a thorough trial given to it at once—and adopted if found to answer the purpose anticipated—or abandoned if otherwise.

Wilmington and Manchester Railroad.

We have before us the proceedings of the stockholders of this road, at their stated annual meeting; on 22d June last, at Darlington C. H., South Carolina.

It was reported at the meeting that "the increase of subscription, since the last annual meeting, was about $110,000—of which $70,000 was unconditional, and that the whole amount subscribed at that time unconditionally was $481,000."

It was stated that offers had been made by responsible contractors, to build the road at the estimates of the engineers; and to take a considerable amount of stock in payment.

The following gentlemen were chosen directors for the ensuing year, viz:

Gen. W. W. Harlee, Marion; E. B. Dudley, H. Nutt, N. N. Nixon, John A. Taylor, Wilmington; Augustus Smith, Columbus; J. J. Moore, R. B. Muldrow, Sumter; Jas. S. Gibson, John M. Timmons, Darlington; J. Eli Gregg, Marion.

GEN. W. W. HARLEY was chosen president—GEN. E. B. DUDLEY, the former president, declining on account of ill health.

We have also a letter before us, from which—though it is not designed for publication—we make a short extract to show that those having it in charge have *resolved* to have a railroad—*a connecting link*—between those of North and South Carolina; and that they have adopted the right course to accomplish the object, viz: taken off their coats, and taken hold of the *implements of construction*, under the direction of competent men This is as it should be, and we congratulate them on their decision—and determination—to "*build the road at any rate.*"

The writer says—"Since that meeting the board of directors have met, and determined forthwith to locate the road, and have authorised the letting out of contracts as fast as located.

"Accordingly we have engaged the services of Maj. WALTER GWYNN, of Virginia, as chief engineer, and expect in a few weeks to have two corps of engineers on the road, one commencing at the northern and one at the southern terminus of the line.

"We have about $700,000 subscribed, and have every assurance that along the line all that is required for grading and superstructure, except iron, will be readily made up, so as to prepare the road at a short period for the iron.

"We hope to be enabled to secure the necessary amount for the purchase of iron, cars, etc., by the time we need them. * * * At any rate we *will build the road.*"

We need hardly say that any service, in accomplishing this very desirable object, which this Journal can render, will be cheerfully performed.

New York and Erie Railroad.

This company commenced on Monday, 14th of August, says the Binghamton Journal, to lay the "track from the railroad depot in this village, eastward. We learn that the party at this end of the line are expected to lay nearly two miles of the rails per week. The iron rails, weighing 60 lbs. to the yard, are from the Montour iron works in Pennsylvania. The cast iron chairs are from the foundry at Corbettsville, about ten miles above this on the Susquehanna, and weigh about 15 lbs each. The rails are secured to the cross ties by these cast iron chairs, at intervals of 18 feet, and also spiked at intervals of 2¼ feet.

"The first car was put upon the track on Wednesday, for the transportation of materials; and the track laying will now continue uninterruptealy, with an increased force, until the whole road is opened to New York, which is estimated to take place on the 1st of January next."

On the 1st day of January next, we hope to visit Binghamton in the company's new cars.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 2d inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Sept. 4..	7,242 06.	157,309 15
By Room Run ....."	3,758 18..	79,101 18
By Hazleton.....	2,009 00..	62,300 00
By Beaver Meadow.....	2,602 09..	54,257 09
By Spring Mountain.....	3,511 19..	44,012 17
By Buck Mountain.....	2,794 03..	48,509 03
By Cranberry Mines.....	....	7,880 00
White Haven.....	605 04..	5,696 16
Sugar Loaf.....	61 00..	442 06
Total.....	22,584 19.	460,115 08

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 7th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven.....	9,694 16
" Pottsville	4,770 01
" Port Carbon.....	6,299 04
" Port Clinton.....	2,591 00
Total this week.....	23,355 01

The following is an official statement of the total amount sent to market this year:

From Port Carbon.....	264,123 16
From Pottsville.....	134,010 10
Schuylkill Haven.....	356,935 04
Port Clinton.....	99,123 17
Total.....	853,193 07

The amount of coal brought to market by the Schuylkill canal during the week ending the 7th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon.....	7,354 18
" Schuylkill Haven.....	3,345 11
" Port Clinton.....	1,156 18
Total this week.....	11,857 07
Total this year.....	285,812 06

Recapitulation.—Total Shipments this Season.

By Lehigh companies.....	460,115 08
By Reading railroad.....	853,193 07
By Schuylkill canal.....	585,812 06
By Delaware and Hudson canal.....	244,649 00
Total.....	1,843,770 01

The Plough, the Loom and the Anvil.

We have received the third number of this new, and *highly deserving* candidate for the public favor—the two first having been sometime on our table—from which we take an excellent article on "The Iron Trade of the Union." The views, or we should say the important *truths*, put forth by the able, and *always useful*, editor, ought to be read and pondered by every farmer and every planter in the country.

The first sentence, viz: that "*every man is either a customer to the farmer and planter, or a rival to him,*" speaks a truth so important that it should arrest the attention of every cultivator of the soil, and cause him to read the entire article with care.

We might go on quoting equally important truths, until the space allotted to this article was filled, but we will give but *one* more detached from the article—which is as follows, viz: "The larger the proportion of consumers to producers, the larger will be the return to the labor of the farmer and planter, and the more valuable will be their land. The larger the proportion of producers to consumers, the smaller will be the return to the labors of the farmer, and the less valuable will be his land."

From 'The Plough, the Loom and the Anvil,' for September, 1848, vol. I., No 3.

The Iron Trade of the Union, and its Influ- upon the Interests of the Farmer and Planter.

Every man is either a customer to the farmer and planter, or a rival to him. Every man that is raised here, and every one that is imported, may be made a customer while employing himself in the work of fashioning wool or cotton into cloth, or coal and ore into iron, or wood and iron into ploughs, and axes, and harrows, or into steamboats, or cotton, or wollen, or other machinery, but if prevented from becoming a customer he must himself become a producer of food, or cotton, and therefore a rival to the farmer and planter. The larger the portion of consumers to producers, the larger will be the return to the labor of the farmer and planter, and the more valuable will be thair land· The larger the proportion of producers to consumers, the smaller will be the return to the labors of the farmer, and the less valuable will be his land. These are plain and simple truths, which we desire to impress on the minds of our agricultural readers, before asking them to accompany us in an examination of the influence upon their interests now exercised by the iron trade of the Union.

In looking at the coal trade we began with the producers. In the present case we shall begin with the consumers. And first, we may inquire who are the real consumers of all the vast mass of iron that is manufactured and imported.

The farmer and planter require vast quantities of iron for the construction of axes, and ploughs, and harrows, and other implements required to be used in production of food and of the raw materials of clothing—large quantities for the transportation of their produce in carts, and wagons, and steamboats, and cars, and on railroads, to the place of consumption, and for bringing back the sugar, and the coffee, and the cloths, required for their nourishment and protection—and other large quantities for the machinery required for the conversion of their wool and cotton into cloth, their timber into buckets and tubs, and carts, and wagons, and steamboats, and the thousand other articles required for the uses of themselves and their fellow-men. They are great consumers of iron. They use nine-tenths of all that is made and all that is imported. They pay for nearly all of it, for of the little that is not directly consumed and paid for by them, a large portion is consumed and paid for by men who live by transporting and exchanging their products, themselves producing nothing.

Nevertheless, they appear to buy very little of it. Why is it so? It is because the present system of the world causes the waste of a large portion of their products on the road, and in the transportation and exchange, the planter giving five bales of cotton for one bale of cloth when he should receive two bales of cloth for three bales cotton, and would receive them but for the wasteful process to which we have referred. Towns and cities are thus built up at the cost of the planter and farmer, who remains poor and are compelled to scatter themselves over the earth, and to solicit the people of those towns and cities to make roads for them, when, if they had the fashioner of their products in their own neighborhoods, they would grow rich and make their own roads. They it is that consume railroad iron, and iron in all its other forms, and they it is that pay for it, although indirectly.

If, now, we desire to understand how they pay for it, we may begin by placing ourselves alongside of a furnace, or rolling-mill, and watching how the farmer pays to the furnace-master the price of a ton of iron. On one day, he carries him a load of potatoes. On another, he carries eggs, and milk, and veal. On another, a load of hay. On a fourth, he carries him a load of lumber, the produce of his best lands, so heavily timbered that heretofore he could not venture to incur the expense of clearing them. On a fifth, he sells a day's work of his son and himself, his horse and wagon, not then required on the farm. On some of these occasions he carries back manure to return to his farm a portion of what he took from it, and the result at the close of the year is, that he has his iron paid for and that his farm is improved, and by the very process opened to him by the vicinity of the furnace, to a twice greater extent than the value of the iron itself. He has thus earned treble wages. He has received the price of the labor and his products once in iron, and twice in improvements of his farm. To all who desire to study this process, we would recommend that they should place themselves alongside of a little town growing by aid of concentration, and see if we have erred in our estimate of the advantages derived by the farmer from its proximity, unless indeed we have done so in under-estimating them, as we believe to be the case.

Let us now place ourselves alongside of the man who is distant hundreds or thousands of miles from furnaces and rolling-mills, and see how he pays for his iron. It is obvious that he cannot send potatoes, or hay, or milk, or turnips, or any other of the commodities of which the earth yields largely. He may send wheat, of which the yield is 600 or 800 pounds to the acre—or cotton, of which he obtains 200 or 300 pounds, but from them no manure is returned, and he exhausts his land· He cannot sell the day's labor of his son or himself, his wagon or his horses, all remain unemployed when not required on the farm. He has no market for his timber, and his best soils remain uncleared and unimproved. Nevertheless, the iron must be paid for, or he cannot have it. He sends the wheat, or the cotton produced on poor lands, and having exhausted them, he flies to other poor lands. He has the iron, but his farm is deteriorated to the whole extent of its value. He has been paid once where the other has been paid three times.

We may now inquire what is the quantity of land and labor required for paying for this ton of iron.

An acre of land, to which the manure is returned, may be made to yield 400 bushels

of potatoes, and half that product will pay for a ton of iron.

An acre of land may be made to yield two tons of hay, besides affording pasture for cows, whose milk, united with the hay, will almost pay for a ton of iron.

An acre of naturally good land will yield twenty bushels of wheat, but if the manure be regularly wasted on the road, it will fall to twelve or ten, as has been the case in New York and Ohio, and then it will require three or four acres to pay for a ton of iron. If the process be continued, it will in a little time take half dozen acres to do it, and in a little further time the land will be abandoned.

An acre of cotton land yields two hundred pounds, and a thousand pounds, the produce of five acres, will be required to pay for a ton of iron. If it be regularly exhausted, the time will arrive when it will require a dozen acres, and then the owner will fly from it, as he is now doing in South Carolina.

In the first case, the price of the iron is the use of half an acre of land and the labor bestowed thereon. In the second, that of an acre. In the third that of three or four, and in the last, five acres. The owners of the first and second give little land labor to obtain a large return. The third and fourth give much land and labor and obtain a small return. The former become rich and their sons and daughters marry and remain near them. The latter see their daughters remain unmarried, because all the young of the neighborhood fly to the west, and ultimately abandon their farms and fly to the west themselves.

The farmer and planter are the real paymasters for the iron, and it rests with themselves to determine how they will pay for it —whether by the mode that enriches them and their land, or that which impoverishes both. In 1842, they determined that it should be paid for in potatoes, and hay, and milk, and veal, and the result was that in 1847, there where made about 700,000 tons, worth in the various forms it was used, stoves, railroad bars, machinery, axes, ploughs, &c., at least $100 per ton, or seventy millions of dollars, and making a market for almost that amount of bulky articles of food, the refuse of which went back upon the land. In 1846, they determined to try if it could be had cheaper elsewhere, the result of which is that much of it has now to be paid for in wheat and cotton, of which the earth yields little, and of that little obtaining nothing in return.

The quantities of iron paid for in 1847 was probably double what was paid for in 1843, and the amount paid was greater in the former year by at least thirty-five millions of dollars than in the latter, and yet the payment of this vast amount was unfelt. Why was it so? Simply because the major part of it was paid for in commodities of which the return to labor was large, potatoes, and milk, and hay, and a large portion in labor of men and horses, that would otherwise have been wasted, and in timber that would have been valueless—and because, with every step in this process the land was improved to a greater extent than the value of the iron itself. Were all the furnaces and rolling-mills created within the last four years now be stopped, and the quanity produced at home to be reduced to 350,000 tons, the quantity imported to take its place would not, we believe, amount to 80,000 tons, and the payment for even that quantity would by seriously felt, because it would be made in commodities of which little is returned to the labor employed in cultivation, and its exporttends to the exhaustion of the land.

It is impossible to avoid being struck with the wonderful increase in the consumption of commodities of every discription as soon as they come to be mannfactured at home, and the reason for that increase is, that every such manufacture feeds itself by finding employment for labor and for things that would otherwise be wasted, and a market for those things the productions of which enriches the farmer and his land at one and the same time. But a few years since, a gold pencil-case was a rarity not to be found in our principal cities, as we have had occasion to know from having ourselves made the search. Now, about 100,000 are made in a year in New York alone, in whose immediate vicinity live the farmers who send in a single day ninety tons of strawberries and milk to market. The pencil-makers help to make the market for the strawberries, and the farmer obtains hundreds of dollars from a single acre that would not have produced a dozen bushels of wheat but for the proximity of a market for its products, whence the manure could readily be returned.

We would now ask the farmer and planter, live where they may, to look around them, and see if their neighbors and themselves, their sons and daughters, or their hands, do not waste more time for want of a regular demand for labor throughout the year, than would convert into yarn all the cotton and wool of the neighborhood, and if they do not themselves lose more for want of aid in harvest than would pay for weaving it. We would next ask them to see if they do not waste more food than would feed the spinners and weavers, and then see if all that food would not be clear gain, as the persons who would be spinners and weavers must, and do, eat while engaged in doing nothing. Having done this, let them determine if the whole work of spinning and weaving would not be so much clear gain to them. Let them next see if they do not now waste more manure on the road, and at the distant markets, for want of a market at home, than would enrich the poor lands they now cultivate, and then let them determine how much more productive would be their labor if they could sell the timber which now covers their richest lands, remaining to this day unimproved because of the excessive size of that timber, and of the cost that would attend the work of its destruction. Let them then calculate the amount of taxes upon those now unproductive lands, and determine what would be their value if a market were provided on the ground for the hay, and milk, and butter, and veal, and beef they could yield, and that market supplied by men and women, and boys and girls, now often unemployed, but then employed in enabling him to export cloth instead of wool, or cotton, or corn. Having done all this, they will satisfy themselves not only that the labor employed in the work of conversion is all clear gain, but that there is a further and great gain in the improvement of the machine given for the production of food and wool, more than equal to the whole labor employed in the work of conversion. The earth is the great machine—the one that improves with use, and improves most where most used, and therefore it is that the consumption of cotton and woolen cloths, and iron, and paper, and pencil cases, and all other articles of necessity and luxury, increases so rapidly when the work of conversion is performed at home. —It is the work that is twice blessed. "It blesses him that gives and him that takes." If we desire evidence of this, we need only look to those parts of the world in which a market is found *on the land for the products of the land*, and compare the neat and comfortable houses and beautiful farms of Belgium, or of Tuscany, with the squaleid wretchedness and poverty of Poland or Southern Russia, which export cheap food to England — to that country which now keeps itself poor by comparison with what she might be, because she expels men and wealth and imports food, while neglecting her own agriculture and compelling the world to use her looms when they would prefer to use their own, consuming their food upon the spot on which it was produced.

To be Continued.

South Carolina Railroad.

Their Condition and Prospects

It appears that some of the stockholders of this company, were dissatisfied with the management of its directors and officers—and at the last annual meeting, Eebruary, 9th, 1848, they proposed a committee of investigation—in the following resolution, viz:

"1. *Resolved*, That a committee of five stockholders, none of whom shall be an officer or agent of the company, be appointed, whose duty it shall be to inspect the road, workshops, and other property of the company, and report the state and condition thereof. That the said committee shall have free access to the papers, journals, and records of the company, and of the board of directors, and shall make their report to an adjourned meeting of the stockholders, to be held on the first Tuesday of April next.

This committee held several meetings, and made, we presume, a thorough investigation of the condition of the road, its machinery and appendages, the result of which they give in a report dated May 2d, last—from which we make the following *extracts* viz:

The committee appointed under resolutions passed February 8th, last, "have travelled over the entire length of the road and its branches, looking into its condition with as much care and minuteness as circumstances would allow, and submit the following as the result of their labors:

"*The Road.*—The condition of the road itself was a subject of anxious inquiry and examination, and your committee are satisfied that it is not such as its efficient and profitable working demands, and that there are many defects which require the application of

prompt and vigorous correctives. The force that is provided by the company for the repair of the road, and for keeping it up to a proper working condition, is abundantly sufficient for the purpose, and we regretted to perceive that it had not been judiciously and efficiently applied. It was evident to us that the road had suffered sensible deterioration in many places, and that repairs had been so long delayed, that to restore it at once to a healthy state, would entail a heavy expense upon the company. Where repairs have been made, and in the reconstruction of the road, there has manifestly been a great want of uniformity. No settled or regular system seems to have been adopted, and the evil consequences are everywhere apparent. The timber, both for the longitudinal rails and cross ties, has, in many instances, been selected with too little care, being of inferior quality, and insufficient, both as to size and strength, for the purposes to which it is applied. It must be borne in mind that the weight and velocity of the engines have been greatly increased since the road was first constructed, and that consequently all repairs should be made with direct reference to this fact. The greater the weight, and the quicker the speed, the more substantial should be the foundation; and no security can be looked for where this is neglected. Sufficient attention has not been bestowed on this subject, and the cross ties particularly are so small as to be unable to resist the pressure, to sustain which, they should have been suitably adapted.

"The draining of the road, and keeping it free from the destructive influence of water, a matter of great importance to its preservation and solidity, seems to your committee not to have been the subject of sufficient care: and in many places the bed of the road has been materially affected by the obstructions produced not only by waste matter which has been permitted to accumulate in the ditches, but also by old timber removed from the road and cast into them. This has already proved to be highly detrimental to the road, as in many places it yields under the pressure of the cars, occasioning a loss of power, and operating injuriously upon the machinery.—Much of the wear and tear of the iron superstructure is caused by the want of a bed well drained, and affording a solid and substantial foundation.

"Too little regard seems to have been had to the proper adjustment of the rails, when it has been found necessary to make repairs.—In many instances, the newly laid rails were found not to be in line, and such defects should be particularly guarded against, because they are not only fruitful sources of accident, but they tend, in a great degree, to increase the wear and tear of the iron rails, as well as of the cars and machinery. To this cause, among others, may be attributed the fact that the hospital is generally filled with engines requiring repair."

This is somewhat severe on those who have had the management, and if merited should cause a change in its direction.

The next extract relates to the depots, and is as follows, viz;

"Among the many matters which claimed the attention of the committee, there were none which seemed to them of higher importance than the permanent location of a suitable depot at the Charleston terminus of the road, and the erection of safe and convenient workshops. Columbia and Hamburg are well supplied in this particular, and the advantages resulting to the road are felt in all its operations. At Charleston, on the contrary, where there is a much larger amount of business, and where the necessity for adequate facilities for its transaction is far greater than at either of these points, the company has suffered much loss and inconvenience from an ill-arranged depot, with its unsuitable buildings and imperfect accommodations.—Here is concentrated a large portion of the produce, not only of this and of the adjoining states, brought down by means of the road, but also a heavy amount of dry goods and merchandise of every description, sent day by day for upward transportation. It must be obvious to all how urgent is the necessity for a proper depository at so important a point, not only for the care and preservation of goods and produce while in charge of the company, but also in view of the immense saving of labor and expense which such an establishment must necessarily effect. The depot at present used in Mary street is altogether unequal to the demands even of an ordinary business, and is the source of frequent and well grounded complaints with the best customers of the road. Instances have occurred where goods have been returned, which were sent to the depot to be transported on the road, and which the company were unable to receive, because of the want of room, imposing on the merchant the additional charge of drayage to and from the depot, to say nothing of the inconvenience, and disappointment."

* * * * *

There is evidently much cause for complaint in relation to the condition—and *we* will add *position*—of the depot in Charleston. This has long been a subject of complaint, and, if we understand the subject, justly so, too; and we are the more surprised to find the following recommendation from an intelligent committee of business men. They say:

"In view of all the circumstances, the committee have come to the conclusion that measures should immediately be taken for the permanent location of the depot at the present terminus of the road in Mary street. The company already own a portion of the land, and it is only necessary to make some addition to afford ample room for the proper transaction of business. The objections to leased land appear to your committee to be insurmountable, and the land occupied for this purpose, should be held by the company absolutely and in fee simple. Commodious and substantial brick buildings, adapted to the safe, expeditious, and economical operations of the road, should be at once erected, and no period could be selected more propitious than the present, labor and materials both being procurable at the lowest rates."

The recommendation to erect "substantial brick buildings," "with ample yard room," is very *well*—but to have it done in "*Mary street*,"—*from* and *to* which every thing must be *carted*, through the sand, in order to reach the shipping—instead of recommending the establishment of the depot on the *water's edge*—is surprising to us. Not a word is said in favor of a measure of such importance to the road, though some not very important matters are considered. Let the company do what they may, now, in relation to a depot, in Mary street—the time *will come* when they will be *compelled* to build another on the water's edge—therefore *ordinary* foresight would lead to that desirable result now.

The committee recommend the erection of suitable work shops—and so do *we*, most urgently, when a suitable location can be obtained; but we fear it will be difficult to obtain sufficient ground in Mary street, or even in Citadel square, to accommodate the *increasing* business, and the work shops, even if the latter place could be obtained—of the ground in Meeting street we are unable to speak; but one of the greatest errors committed by railroad companies in this country, has been in providing *too little* ground for depots. They have generally estimated for ground sufficient to accommodate *two* or *three* times the business anticipated the first year after opening the road—which has always proved too small a pattern—as may be seen in the case of *three* of the Boston roads, viz: the *Lowell*, *Providence* and *Worcester*—whose sanguine friends estimated that their *aggregate* number of passengers would be, when fairly in operation, 141,440 per annum—whereas the number *actually* carried by them, in the twelfth year after they were brought into use, was 1,570,466—or more than *eleven times* the number estimated by their most sanguine friends before their completion; so will it be with the South Carolina road, when Alabama and Tennessee shall have done as much as Georgia and South Carolina, in the construction of railroads—and therefore it is that we are surprised that this committee did not urge the erection of the depot on the water, as proposed last year, or the year before. We again say—and *confidently*—that it *must*, and *will yet* be done—therefore better *now*.

The committee speak thus in relation to the incline plane at Aiken, viz:

"Your committee feel that they should have but imperfectly performed the duties assigned them, had they not bestowed special and particular attention on the inclined plane at Aiken. This is an establishment, not only attended with great expense, but one that interposes a serious impediment to the regular and expeditious performance of the business of the road. The committee have been unable to learn with precision what is the annual cost of keeping up this plane, but enough has been ascertained to convince them that it is a heavy drain upon the income of the company, and that it ought by all means to be dispensed with.

"Among the more obvious items of expense attendant upon it, may be enumerated the following: a superintendent, eighteen laborers, a workshop, machinery for working the plane, a guard for the protection of the freight detained by this obstruction, a new rope every two or three years, a gang of laborers to remove the sand which accumulates at the foot of the plane after every hard rain, and which it is necessary to transport a mile with engines and cars; five locomotives at the head of the plain, to raise and lower the cars, and to carry the freight between the plane and Hamburg, which could be done by two, but for the existence of the plane; two mules,

with a hostler; and the keeping up a number of intersecting tracks, equal at least to an additional mile and a half of road. This, it must be recollected, constitutes but a portion of the expense, the greater part growing out of the delay and detention, necessarily incident to such an establishment.

"With a view of ascertaining, with some degree of accuracy, the extent of delay occasioned by the inclined plane, the committee caused a statement to be kept, noting precisely the time of the departure and arrival of all the cars to and from Charleston, Hamburg, and Columbia, from the 1st of March to the 31st, inclusive. This statement was kept in Charleston, by that most efficient and valuable officer, the chief agent, Mr. John King, and may be relied on with entire confidence.

"From this it appears, that a train leaving Charleston for Columbia, will,on an average, perform the trip in 28 hours and 10 minutes, while a train from Charleston to Hamburg will occupy 32 hours and 52 minutes, making a difference in favor of the Columbia trip of 4 hours and 43 minutes.

"But the disparity in the downward trips is immeasureably greater. From the same table it appears that a train from Columbia to Charleston, will consume 33 hours and 37 minutes, while one from Hamburg to the same point, will occupy 53 hours and 14 minutes, leaving a difference of 19 hours and 37 minutes.

"It must be here observed, that though there is in fact a difference of six miles in the length of the two roads, that is to say, Columbia being distant from Charleston 130 miles, and Hamburg 136, yet that the regulations requiring the cars to pass over the trestle work across the Congaree swamp at a diminished speed, removes this inequality, and the passages should be accomplished in the same time, except so far as the inclined plane would make a difference. Thus it will be seen that there is a loss of time amounting to 16 per cent. against the trips to Hamburg, and 60 per cent. against those from Hamburg to Charleston, as compared with the trips between Columbia and Charleston. This difference the committee are compelled to attribute to the difficulties and delay occasioned by the inclined plane, and they think this is more clearly established by the fact, that the principal loss of time is incurred by the trains which leave Hamburg for Charleston. The period selected for this comparative test, was the month of March, when there was by no means a press of business, or any other cause existing to occasion unusual detention.

"Another very serious evil arising from the inclined plane, is felt in the delay and confusion produced at the depot at Charleston, by the separation of consignments which takes place at Aiken. This we will attempt to illustrate. A train of 20 cars are loaded at Hamburg, and two or more of these contain the produce of one planter, consigned to his factor in Charleston. They all arrive together at the foot of the plane, but in the confusion incident to the hurry of business, and the difficulty of getting them on the proper track, (which can only be understood by those who have witnessed the operation) one of these very cars is separated from the rest, and is delivered to a different train coming down. The trains arrive separately, at different periods, and are discharged at different parts of the yard at Charleston. The consignee calls for his consignment, and is only enabled after a long and laborious search to find it, portions at a time, in different parts of the yard, and frequently under heavy piles of produce, which, from want of room, have been thrown upon it. This is a serious annoyance to the merchant, a vexatious embarrassment to the agent, and a source of heavy expenditure to the company, a great part of which is justly chargeable to the plane at Aiken.

"The divided responsibility which this system involves is, in the view of your committee, another of the evils growing out of the inclined plane. The conductors are obliged to transfer the one to the other along the line of road, and by the time that goods arrive at the point of destination, either at Charleston or Hamburg, they have passed through so many hands, that it is by no means an easy matter to fix the responsibility when loss occurs.

"The risk encountered by the large accumulation of goods and produce necessarily detained at Aiken by this obstruction, is also a matter for grave consideration. It is fresh within the recollection of all, that cotton and cars to the amount of $10,000 were a few years ago destroyed by fire at the head of the plane, for which the company were responsible; and there is no security against the recurrence of similar disasters. So long as this establishment is continued, merchandise and produce must be liable to detention and exposure, and the company must encounter all the hazards, great as they are, resulting from such causes.

"From these facts it must be evident that sound policy, as well as economy, demands that the inclined plane should be dispensed with, as soon as the company are in a condition to lay down a continuous track. Even if it be admitted that by extraordinary exertions and at great additional expense, the company are at present enabled to pass the business of the road at this point, yet it is certain that the difficulty of doing so must have the effect of preventing any material increase of that business while this obstacle is permitted to remain; and when the contemplated connection with the fertile valleys of the Tennessee and Cumberland rivers shall have been effected, it will be utterly impracticable to accommodate the additional business that may be expected from these sources.

"The committee feel it to be a solemn duty to urge upon the stockholders the removal of such an obstacle to the present and future prosperity of the road, and to express the opinion, deliberately formed from a careful examination of the subject in all its aspects, that it is utterly vain to expect any considerable improvement in the operations of the line until we imitate the policy which experience and progressive knowledge have dictated to other roads, of dispensing with inclined planes wherever practicable, whether managed by stationary power or otherwise."

We give their remarks entire upon this important subject, and agree fully with them that it is better always to avoid planes, *if it can be done without a greater sacrifice*. But what constitutes a greater sacrifice, is a question upon which there are different opinions—as will be seen by the remarks, evidently, of a practical and intelligent man, though his name is not given—which will appear in our next number, in connection with the remainder of this article—after having kept them a long time on our table.

The subject is an important one, and we shall be pleased to hear from others of the profession on the subject—as we know there is, even at this late day, quite a difference of opinion on the subject.

In speaking of the Camden branch, they say:

"The committee passed over that portion of the Camden branch which was completed at the time of their examination, and would submit to your consideration one or two remarks in regard to its construction. The method which has been adopted and pursued in that construction, they cannot but regard as highly objectionabe. Longitudinal timbers, hitherto considered as indispensable in such structures, have been entirely dispensed with, and the cross ties, instead of resting on parallel sills, disposed lengthwise on the road, are made to lie on the bed of the road, with no other foundation than that afforded by the earth itself. [These remarks are intended to apply to that part of the road beginning at the trestle work beyond the river, leading to Camden, and now in progress of construction] It will at once be perceived that one of the principal supports to these ties is omitted under this plan, and that they must the more readily yield to the pressure from above, and sink into the ground, particularly on the embankments, where the foundation is necessarily less firm and compact, and which must be in progress of settling for a period of several years.

Petersburg Railroad Report for 1847.

We referred, in No. 32 of this Journal, to the report of this company, showing a very favorable state of its affairs. We now give the report entire—so far as it relates to the *business* of the company—omitting what relates to the controversy with another company.

From this report we find a prosperous and improving state of business, and trust that the good old town of *Petersburg* shares fully in this improvement.

If the people of Petersburg were alive to their own interest, they would, it seems to us, make an effort to induce the people on the line, and at Lynchburg, to build a railroad *direct* to *Lynchburg*—thus drawing the business from the west to themselves, since the people of Richmond do not move in the matter. A railroad to Lynchburg, and thence to the *Ohio river*, would be of much more importance to Petersburg than the one now in use *south*; as the former would bring both freight and passengers, to an immense amount, from which Petersburg would derive great benefit. We have seen no indication of such a contemplated movement: but have read with deep interest the letter of Mr. Maury, in relation to the connection of the Ohio with Norfolk, making that old city the depot, and shipping port, for a large section of country lying west, and southwest of it.

Of one thing the people of Petersburg may rest assured, viz: that if they do not move in the matter, the people of *Richmond are sure* not to do it for them. The report is as follows:

REPORT OF THE BOARD OF DIRECTORS

The Board of Directors herewith submit the customary statements of the affairs of the company and the business of the road for the twelve months ending January 31st, 1848.

These statements shew that receipts of transportation for that period were $182,686 80, and the current expenses $76,297 13. These being deducted, left the income for the year $106,389 67. Out of this there was paid on account of contract with F. E. Rives, esq., $5,000; for interest $1,120 66; for a new locomotive engine, a new passenger car, and twenty new eight wheeled freight cars, $16,336 96; for new warehouse at Petersburg and Garysburg, and new water stations, $4, 272 31; and for rails, sills and other materials on hand, $14,891 52. There was also paid a dividend of 7 per cent., amounting to $52, 195. Deducting all these payments there was left a surplus of 12,573 22, to go towards the extinguishment of the debt. The whole amount of debt now, less the cash on hand and other assts, is $20,038 30.

Comparing the receipts with those of the previous twelve months, they shew an increase of $14,409 90 in freight, and $5,184 70 in passengers, in all $19,594 60. The current expenses were increased $4,919 11. This increase was caused in part by the larger force made necessary by the increase of the business, but chiefly by the greater cost of the repairs of railroad. These were larger last year than they have been since we laid the new iron, but it is believed that they have reached their maximum, and will be much less for the ensuing year. The track is now in good order, and the superintendent of repairs, who has lately made a close examination of it, reports it in better condition than it has been for several years, and that the amount of timber on hand is sufficient to keep it in repair for the next twelve months.

The amount expended for engines and cars was considerable last year, but it could not be avoided. We have been a good deal injured heretofore for the the want of an adequate number of engines and cars to do the transportation during a press of buisness, and we have also suffered for the want of engines better adapted to the increasing importance of our passenger business. With a knowledge of the facts, we constructed last year a number of new cars, and ordered two engines, one of which was received and put on the road. The other has just arrived, and we have still a large force at work engaged in building new cars; and if the business continues to increase we shall have to order another engine. The expenses for these objects cannot therefore be diminished this year.

We have made an important improvement in our depot in Petersburg. We took down the Blakley warehouse, which had been of no use for several years, and with a part of the materials we have erected a warehouse 80 by 120 feet. This was greatly needed for our inward freight business, as the old warehouse was not large enough to contain the produce coming in during busy seasons.

We call your attention particularly to the increase of our travel last year, which, though small, is important, as it was in the face of an increasing opposition by sea steamers between New York and Charleston, and notwithstanding a reduction of one-sixth of our fare on the through travel for a large part of the year. If the companies north of us had made a corresponding reduction, there is no doubt that our receipts from travel would have been greater. But we call your attention to this subject more for the purpose of shewing how important it is for our interests that the connection between the North and South Carolina railroads should be made. If the companies on the whole line, who have the same interest in the matter that we have, or the stockholders individually, would unite in aiding in the construction of this link, the cost would be very small to each, while the profit would be greatly increased. There is no doubt that a line by land all the way would keep the travel from taking the sea, and with a low rate of fare, such as is charged with profit on the New England railroads, it is highly probably that it would draw many passengers from the western rivers. Indeed, a low rate of fare would of itself create a great travel, as is found to be the case on the railroad already mentioned. Those of our stockholders living in or interested in Petersburg, and indeed the stockholders of the other roads interested in Richmond, would reap a double profit from the completion of this connecting link; for, besides benefitting their stock, it would by increasing the profits of our company, enable us to reduce our rates on the produce coming in on our road, and thereby add to the trade of both places. It is the large travel of the New England railroads which enable them to transport freight so much cheaper than our southern roads, and it is their low rates which adds so prodigiously to their buisness.

By order of the Board of Directors.

H. D. BIRD, President.

Statement of the affairs of the Petersburg Railroad Co., February 1st, 1848.

Capital paid in		$769,000 00
Debt to the State	16,000 56	
Bonds	149 55	
Bills payable	5,000 00	
To individuals	19,234 68	
Dividends	14,688 50	
		54,973 29
		823,978 29
Cost of railroad		789,038 30
Debts due the company		25,121 23
Cash on hand, Feb. 1, 1848		9,813 76
		823,973 29

Receipts and Disbursements of the Petersburg Railroad Company, from Feb. 1, 1847, to Feb. 1, 1848—twelve months.

RECEIPTS.

Cash on hand, Feb. 1, 1848		$6,291 83
Gross amount of transportation		182,686 80
Increased debt due by the company		20,714 00
Furniture of Blakley hotel sold		75 09
		209,767 72

DISBURSEMENTS.

Increased debt due the company		8,843 05
Paid of the debts of the company as follows:		
Bonds	7,000 00	
Bills payable	6,215 83	
Of the div. uncalled for Feb. 1, 1847	7,781 50	
		20,997 33
Current expenses of transportation		76,297 13
Dividends of July and January, 7 per ct.		52,195 00
F. E. Rives, on account of contract		5,000 00
Interest account		1,120 66
For a new locomotive engine		7,356 00
Cost of building 20 new double cars, and 1 passenger car		8,980 96
Cost of new warehouse and office in Petersburg		2,809 90
Cost of new turning platforms in do		362 63
Cost of new waterstations at Stoney creek and Pleasant Hill		617 96
Cost of warehouse at Garysburg, & house for overseer		481 82
Cost of materials on hand—rails		8,083 75
" sills		3,153 62
" wood		2,565 75
" Provisions		895 40
" 2 mules		193 00
Cash, Febrnary 1, 1848		9,813 76
		209,767 72

Detailed statement of the receipts and current expenses of transportation, from February 1, 1847, to Feb. 1, 1848.

RECEIPTS.

Freight	$90,976 40
Passengers	76,015 89
Mail	15,694 51
	182,686 80

EXPENSES.

Officers' salaries	5,000 00	
Depot expenses	10,186 00	
Repairs of engines and cars	12,785 34	
" railroad	26,474 57	
Running engines and cars	16,982 95	
Miscellaneous	4,868 27	
		76,297 13
Income after payment of expenses		106,389 67
Out of this income was paid for new engine, cars, payment to Rives, interest, new warehouses and materials, as above		41,621 45
Leaving the net income for the payment of dividends and reduction of debt		$64,768 22

Comparative Statement.

	February 1st. 1847.	February 1st. 1848.	Increase & decrease.
Capital paid in	769,000 00	769,000 00	
Debts	55,256 62	54,973 29	
Profit and loss	144,674 61		
	968,931 23	823,973 29	
Cost of railroad	946,361 22	*789,038 30	157,322 92
Debts due the co.	16,278 18	25,121 23	†8,843 05
Cash	6,291 83	9,813 76	
	968,931 23	823,973 29	
Freight	75,566 50	90,976 40	†14,409 90
Pass. and mail	86,525 70	91,710 40	†5,184 70
Total	163,092 20	182,686 80	†19,594 60
Charges, all kinds	83,249 09	116,797 92	†33,648 83
Interest	3,882 14	1,120 66	2,761 48
	87,131 23	117,918 58	†30,787 55
Net income	75,960 95	64,768 22	11,192 75
Debt	55,256 62	54,973 29	
Assets	22,570 01	34,934 99	
Amount of debt, less assets	32,686 61	20,038 30	12,648 31
Dividend	6 per ct.	7 per ct.	1 per ct.

* Decreased by profit and loss. † Increase.

Prospects of the Iron Trade In England.

The following article, though published in London nearly two months ago, is as true now as when it was written, and it is in accordance with our own views. The iron trade must improve, and therefore we give it a place in the Journal, even at this late day.

At this time of temporary depression in this great staple of the country, it may not be out of place to say a few words as to the present position and prospects of the trade. The depression has undoubtedly arisen from the pressure upon the money market during the last and early part of this year. It affected the iron interest only after all other interests were prostrated by it; and I feel assured, as I believe the reader will, upon the following data, that it is but a passing cloud, of momentary indurance. The manner in which the money crisis has acted upon the iron interest, has been by causing the railroad companies to delay their orders for rails. They, suffering in common with the rest, applied all the moneys they could collect by calls and loan to the earthwork and formation of their lines, leaving the rails, the last thing required, to be ordered at the last moment when their resources were greater. Hence orders fell off, and depression of prices ensued.—That this, however, cannot last long, and that the delay will tend to run up prices at a future period, I shall proceed to show as briefly as I can, by discussing that all important question in political economy—that of supply and demand. Before, however, proceeding to figures, I may aptly quote a great authority, Mr. M'Culloch, upon the subject. That gentleman observes, in the last edition of his work (article, iron, p. 783) that "if only half the railway projects now (1847) on foot be executed, the production of iron, vast as at present it is, will be quite inadequate to supply the demand."

This opinion of Mr. M'Culloch's is demonstrated not to be overcharged, by considering the data upon which it may be supported.—The following summary of the number of miles of railway actually sanctioned here and abroad will speak for itself. There was passed in 1844 and 1845, acts for 3543 miles of railroad—capital £78,471,000 (see Sir R. Peel's speech, April 24, 1846); and in 1846 for above 4,000 miles (see parliamentary return); while abroad there were constructing in 1845 (the greater portion is still unfinished,) 10,381 miles, viz: France, 2410 miles; Germany, 2347 miles; and in America, 5,624 miles, (see parliamentary return, Nov., 1845); consequently, there are, at home and abroad, above 17,000 miles of railroad in the course of construction at the present moment, the rails and iron work for which have still to be ordered—very little of it having been as yet provided. Assuming that the home railways alone are to be looked to as regards the home market, we have above 7000 miles of railway, which will require, at 500 tons per mile, a moderate estimate, 3,500,000 tons of iron, certainly within the next four or five years. Where this iron is to come from it is impossible to conceive, as the ordinary make is not, in consequence of the great application of iron to the purposes of construction, much above the ordinary demand, and not at all equal to the extraordinary demand of this gigantic proportion; especially when it comes as it will come, from the order being delayed, upon the market all at once. Looking to these facts and figures, which admit of no denial, and to the other signs of the times—to the amount of calls in this country which, during the whole of 1847 and this year, have averaged more than £3,000,000 a month—showing conclusively that, notwithstanding the late pressure upon the money market, the railways have been advancing as rapidly as the resources of the country will allow, toward that state "when they must have rails"—the only conclusion to be arrived at is, that the present depression in the iron trade is but a passing shadow, and that prices must shortly range at a figure even higher than between 1830 and 1840, when pig-iron was at 7*l.* and 8*l.* per ton; for, in the words of Mr. M'Culloch, "the production of iron, vast as it is at present, will be quite inadequate to supply the demand."

Pile Driving--Improved Machinery for.

The following account of Clarke and Varley's improved pile driver may be interesting to some of our readers, but we doubt its superiority over the American steam pile driver.

During the past few years many suggestions have been laid before the public for pile driving apparatus, which shall combine greater rapidity of action than by the tedious and slow operation of the monkey and crab of the old pile engine, and at the same time be far more effective, with greater economy. Of these, Nasmyth's direct action steam pile machine is doubtless the most powerful; but it is at the same time costly, and the tackle necessary for removing the engine from pile to pile cumbersome, which confines its employment to very extensive works, and where large capital is at command. Dr. Pott's pneumatic plan is excellent, but not applicable to all descriptions of ground. Many other attempts have been made to adapt pneumatic power to pile driving, but hitherto, we believe, ineffectually, until Messrs. Clarke and Varley, in their experiments on atmospheric pressure to railways, and other mechanical processes, have at length matured an atmospheric pile engine, which has been at work during the week in driving the piles for the new wharf on the site of the late fire near St Katherine's stairs, Tower hill, has proved completely successful, and of which we will now proceed to give a description. A small steam engine has been erected on terre firma, working horizontally, with a 10 inch cylinder, and 18 inch stroke, connected immediately in gear with an air pump 20 inches diameter. From this a tube proceeds to the pile engine, between the lower part of the frame of which is placed another air cylinder and piston, with 30 inch stroke. The piston rod is attached to a chain passing over a pulley on the top of the frame, the end of which supports another pulley, through the sheave of which passes another chain, one end being attached to the rammer, weighing 26 cwts., and the other passing under the bottom of the frame, and attached to the head of the pile. The steam engine to work, the air pump is kept in constant action, and rapidly exhausts the pile cylinder, below the piston; the air is then admitted under the piston, when the rammer falls by its own weight, raising the piston at the same time, ready for the next exhaustion; the descent of which raises the floating pulley and rammer, giving a succession of short heavy blows, rapid, of course, in proportion to the number of strokes per minute of the engine; and as, by the arrangement of the pulleys, the distance between the pile head and the face of the rammer is always the same, a regularity of action is obtained, quite unknown in the old pile driver; the injurious concussion and rebound of the hammer, consequent from great height of fall avoided, the pile much more firmly imbedded in the soil, and the rammer being permanently fastened to the chain, no time is lost for reattachment after every blow. The connection between the air pump and pile cylinder is formed by a series of cylindrical galvanised iron tubes, 1-16th of an inch in thickness, in 20 feet lengths, 3 inches diameter, united by flexible joints, forming a chain of tubing, by which, during the progress of a work of any length of river wall, the engine and pump will do there duty efficiently, without removal from the spot on which they are first erected. The working of the apparatus was perfectly successful, being most satisfactory to the proprietor, and, of course, highly gratifying to the patentees, who, having now proved the correctness of the atmospheric principle as applied to one branch of mechanics, we hope will be fortunate enough to get an early opportunity of establishing that more important one—the elastic tube railway—by having to lay down a working line, if of only short dimensions, and which would prove most decdedly the correctness, or otherwise, of the system of atmospheric traction.

Compressed Air Locomotives.

This new mode of propulsion seems to be attracting some attention in England—we therefore give the following letter on the subject.

Experimental Trial of the Machinery of Baron Von Rathen's Patent.—Sir: You have on several occasions directed attention to the construction of an experimental carriage, at the college of civil engineers, at Putney, which is to be propelled by compressed air, carried, along with the trains, upon the locomotives and tenders from station to station, such stations being erected at convenient distances of from 10 to 12 miles. You have also published an extract from the works of Dr. Crelle, of Berlin, in which that gentleman has endeavored to show, that, of all the different systems now known, compressed air locomotion is the only one which is more economical than steam. Dr. Crelle is considered a great authority in these matters; and he declares this system to be the best in every degree; consequently, we cannot doubt that a report on the trials witnessed on Tuesday and Wednesday last, at Putney, will be found of some interest to your readers.

The compressed air pumps, of capacities diminishing from the higher pressure in an equal ratio, were worked by a steam engine. The pumps were immersed in a water vessel so as to absorb the heat evolved by compressing the air—a method which we regret has never been applied, on atmospheric railways to the pumps for rarifying the air in the main tube. A reservoir, composed of cylinders of small diameters, similar to gas bottles, was filled, on the first day, to 30 atmospheres, and yesterday to upwards of 40 atmospheres, viz: 600 pounds to the square inch. The cylinders of the reservoir appeared well prepared, and calculated to support this high pressure: and yet an uniform working power was obtained by the action of the moderator (regulator of expansion), equal to only two atmospheres by the moderator, or 15 pounds effective, to the square inch; by which the machinery, driving wheels, with endless chain, etc., were put into regular motion, at 60 strokes per minute.

On Wednesday the motion was regulated up to 120 strokes per minute, and the same regularity obtained.

An apparatus, invented by Baron Von Rathen, for reducing the heat of the compressed air in the act of expansion, worked extremely well. Without at all holding out this merely experimental carriage as a pattern, which it never was intended to be, our opinion is that it proves clearly and practically that the invention, for all practical purposes, is now completed; and the great difficulties, in compressing the air to high degrees, and in using it expansively, the uniform working power, at low degrees—which prohibited till now the application of this elastic power as a substitute for steam—are totally overcome. We must confess that we should hail it as a new era in locomotion, were fire and steam, so dangerous to be carried along through fields and towns, to be replaced by this agreeable and safe power.

And, although we may not follow the minute calculations of Dr. Crelle, to demonstrate that compressed air locomotives possess over steam locomotives also the advantage of economy, we feel, nevertheless, inclined to believe, that if compressed air for 10 locomotives was produced, or obtained, in fixed stations, by a single steam engine, provided with all known improvements in furnaces and boilers, only applicable in stationary machines, the propelling power, compressed air, thus fabricated as it were wholesale, cannot be at all so costly as were the propelling power, steam, for 10 locomotives were obtained by 10 separate steam engines, each placed on a separate locomotive, and where heat and fuel are sacrificed to velocity. We cannot doubt that, with the same fuel consumed by those 10 locomotive engines, much more than four times the steam power could have been created by a single stationary engine; and it is a well known fact, that the effective power in locomotives is less than one fourth part of that obtained in the boiler.

We are not afraid to recommend to your readers an inspection of these interesting experiments, and the beautiful and interesting College at Putney; to which we are sure, by a note addressed to the aboved-name patentee, at Putney, or to the very liberal principal of that excellent institution for the education of scientific practical engineers—the Rev. Morgan Cowie—admission will be easily obtained.

We hear that, in the course of this month, the carriage will be covered, and ready for trial on the common roads; when we shall take occasion to forward you further information.

G. S. DE WITTE: HILLON DE GRANDCOUR.
London, July 6.

Indian Rubber Car Springs.

We have, on several occasions, called attention to this kind of springs. They are in use, both in England and in this country, and so far as we are informed, they give satisfaction not only in relation to action, but also as to cost and durability.

We published in our last number, the testimony of the president, engineer and superintendant of machinery of the Boston and Worcester road in favor of them, and we now give a lithographic illustration of them, in all their applications, which will enable those who desire to do so, to understand their application.

They are to be had of the New England car company Boston, or of Mr. Rider Liberty street, and of F. M. Ray, 100 Broadway, New York. The following is a description of the drawings:

Fig. 1--Represents a side elevation of a railroad track, showing Mr. Ray's mode of applying his rubber springs to the bolster; and the manner, as heretofore done, of applying these springs to the journal boxes of the axles.

Fig. 2—Represents an end elevation of the same, showing more clearly the application of these springs to the bolster, by which it will be seen that the bolster may have a lateral movement upon the links sustaining the lower bar of the bolster upon which the springs rest, but are kept from being to sensitive, by the stiffening and binding effect of the middle cross bar.

Fig. 3—Represents a longitudinal cross section of a journal spring, without pressure upon it; showing the *spiral metallic spring*, placed within the column of rubber and enclosing the bolt to prevent chafing; it also shows that grooves are sunk at the outside, in the column of rubber to admit the bands of iron, and to keep the same in place when the spring is not under pressure.

Fig. 4—Represents a like section of the same spring (fig. 3) when under the action of three tons pressure—showing the use of the iron bands in keeping the column of rubber from bagging out—the tendency to bag being reduced by as many as there are bands on the column.

Fig. 5—Represents a like section, showing a bolster spring—under pressure.

Fig. 6 & 7—Represent double and triple springs, for locomotives and tenders.

Fig. 8—Represents the form of the wrought iron carrier at the bottom of the bolster.

Fig. 9 & 10—Represents a top and side view of a drawing and buffing spring combined.

Fig. 11 & 12—Represents a section of fig. 1 and 2, showing an improved mode of applying journal springs, in which the sustaining bolts of the springs, and the upholding studs or pillars of the same, are in reversed order, and by which this part of the truck is more easily taken apart, and the bearings of upholding pillars are better placed upon the journal boxes of the axles.

It will be seen that the above figures are drawn upon the scale of 1 inch to 1 foot. The following figures are drawn upon the scale of 3 inches to 1 foot.

We expect to have a sample of them at our office soon, and shall be pleased to show them to those who may desire to examine them.

ENGLISH RAILWAY STATISTICS.

For 1846, 1847 and 1848.—By Hyde Clarke, Esq.

Continued from page 586.

No. II.—Cattle Traffic.

The last parliamentary returns are still more defective than their predecessors, so that it is necessary to estimate some of the numbers.

The following shows the number of cattle carried in the year ending 1st July, 1846:

Name.	Cattle.	Sheep.	Swine.
Ardrossan	467	3,826	306
Chester and Birkenhead	7,508	5,461	740
Dublin and Drogheda	429	1,186	3,636
Dundee and Arbroath	351	58	86
Eastern Co.—Cambridge.	36,238	106.055	2,613
" Colchester.	17,134	89,211	11,190
Glasgow and Greenock	640	1,492	—
Glasgow and Ayr	2,136	6,567	1,424
Great North of England.	27,625	32,466	5,305
Great Western	20,389	165,860	53,702
London and Birmingham	55,017	232,058	120,461
Grand Junction	41,595	45,742	337,626
London and Brighton	1,079	16,785	962
London and S. Western	6,390	62,454	5,412
Manchester and Leeds	10,448	66,029	40,346
Maryport and Carlisle	239	575	609
Midland (Estimated,)	22,000	15,000	129,000
Birmingham and Bristol.	2,641	5,274	26,044
Newcastle and Carlisle	11,009	49,263	8,291
Newcastle & Darlington.	16,521	36,505	3,276
Newcastle and N. Shields	2,874	30,894	599
North Union	5,996	25,679	7,796
Norfolk	24,432	21,509	627
Preston and Wyr	903	3,726	13,899
Manchester and Sheffield	416	30,030	6,240
South Eastern	3,892	48,354	5,224
Stockton and Darlington.	1,316	2,649	390
Stockton and Hartlepool.	302	860	420
Ulster	999	878	27,388
Whitehaven	15	19	—
York and North Midland	37,667	62,249	4,944
Hull and Selby	2,662	49,734	1,311
Total	360,314	1,209,447	813,967

As the returns are incomplete, this does not show the whole number of cattle, which will be as follows:

Cattle	370,000
Sheep	1,250,000
Swine	850,000
Total	2,470,000

This shows an increase of 25 per ct. over the animals carried in 1845.

The number of calves carried in 1846 was as follows:

Chester and Berkenhead	6,288
Maryport and Carlisle	1,372
North Union	106

In other returns they are not distinguished.

The amount of revenue derived from cattle traffic was in 1846 as follows:

F. M. RAY'S INDIA RU

Fig. 9.

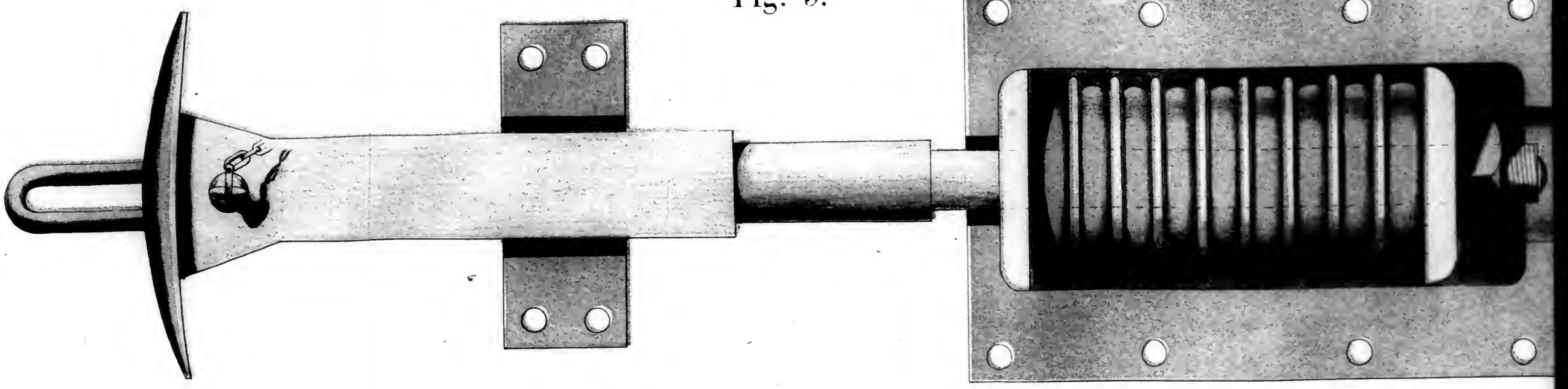


Fig. 3.

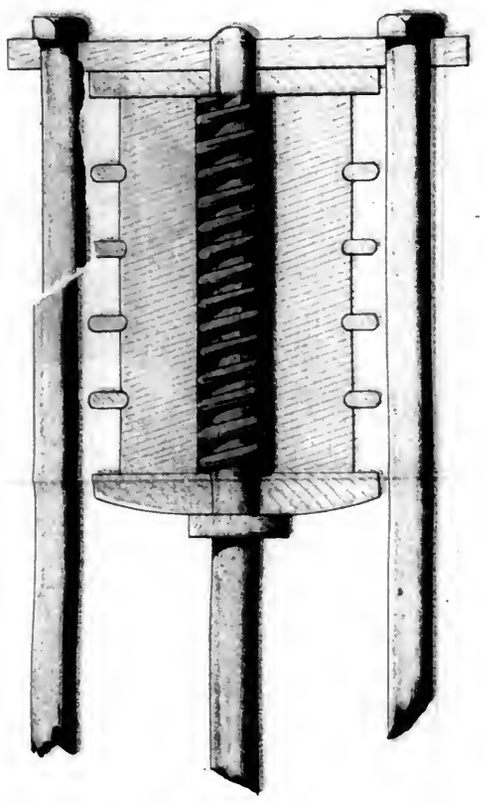


Fig. 4.

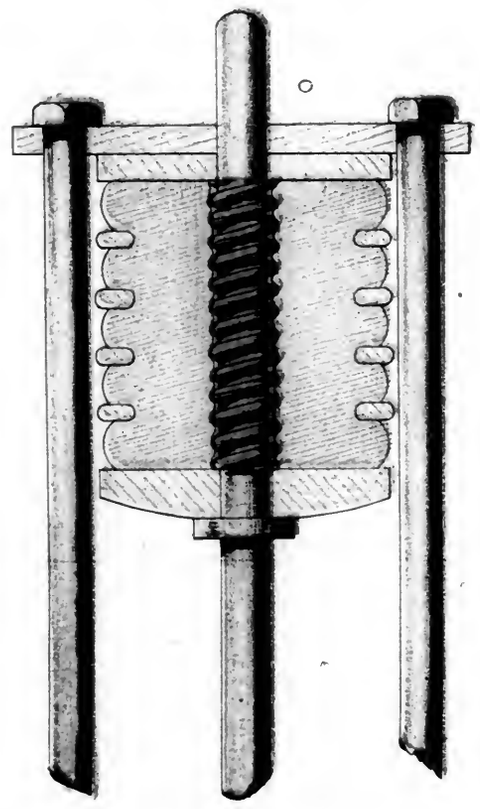
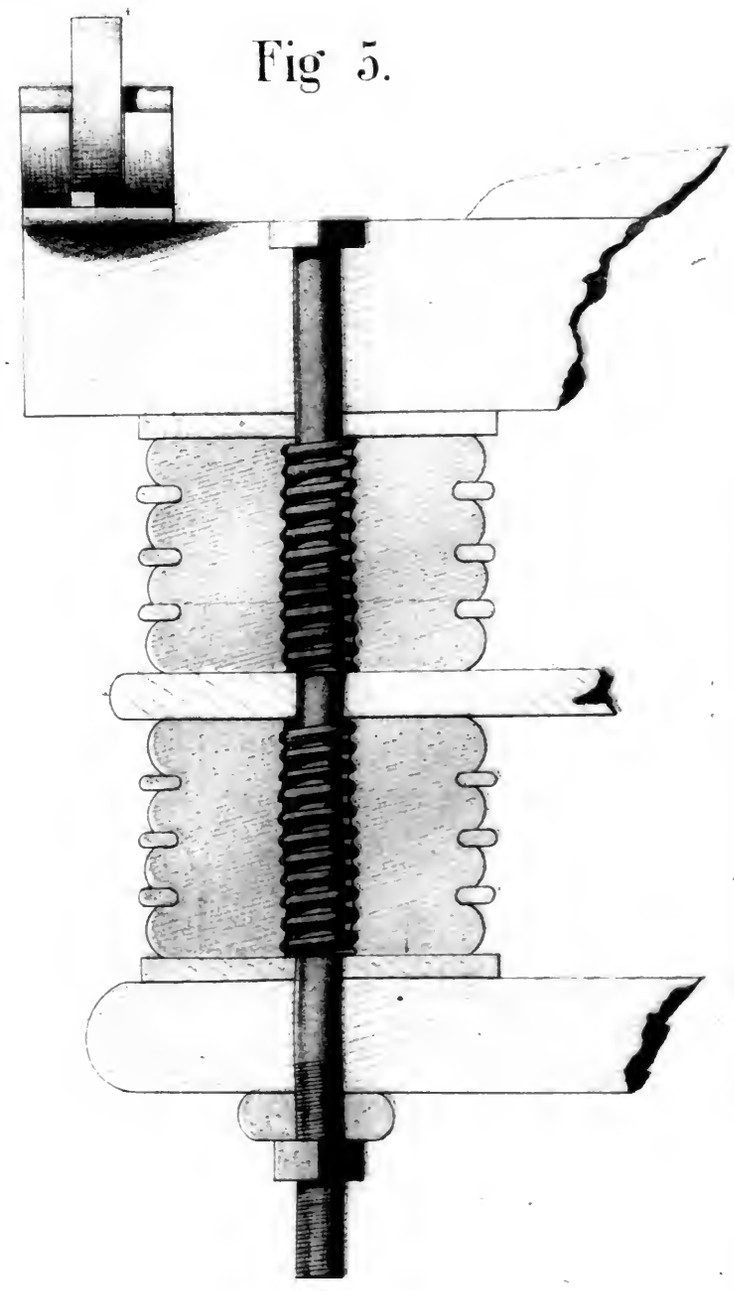


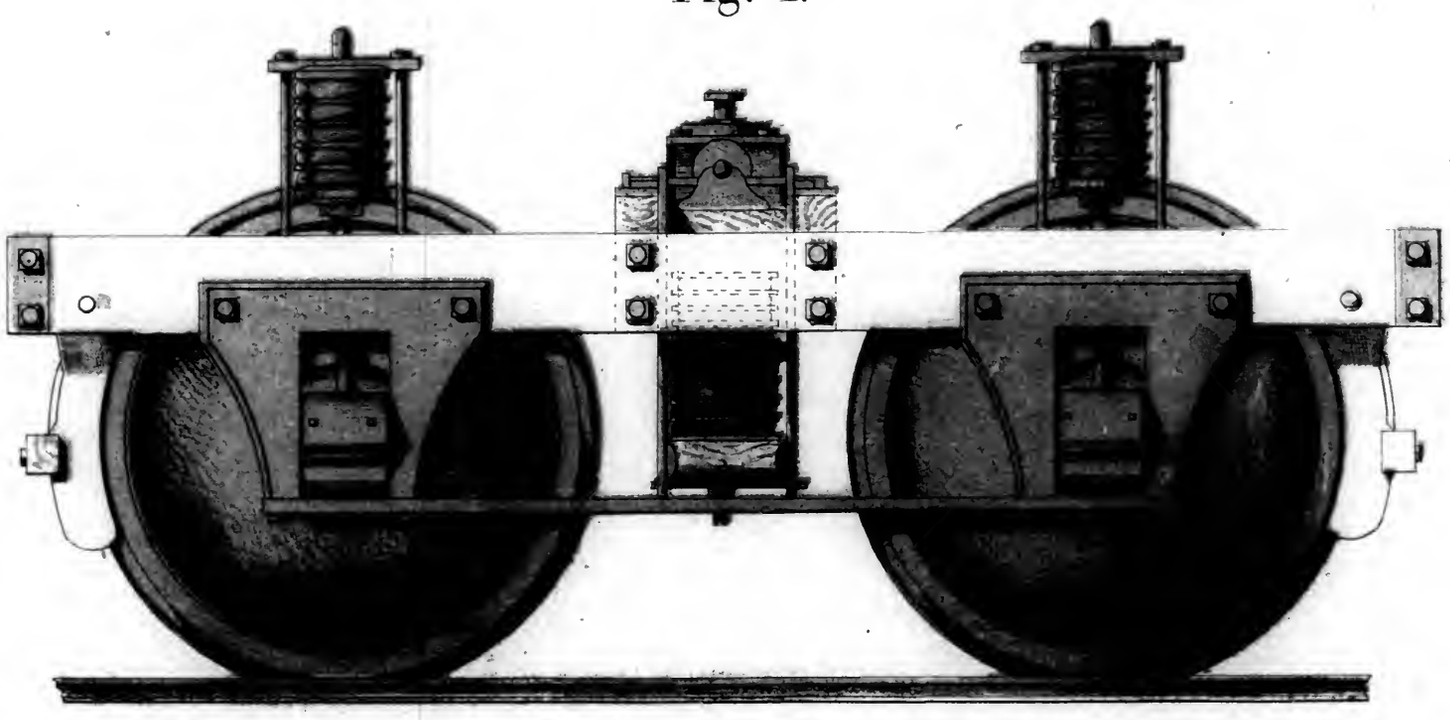
Fig 5.

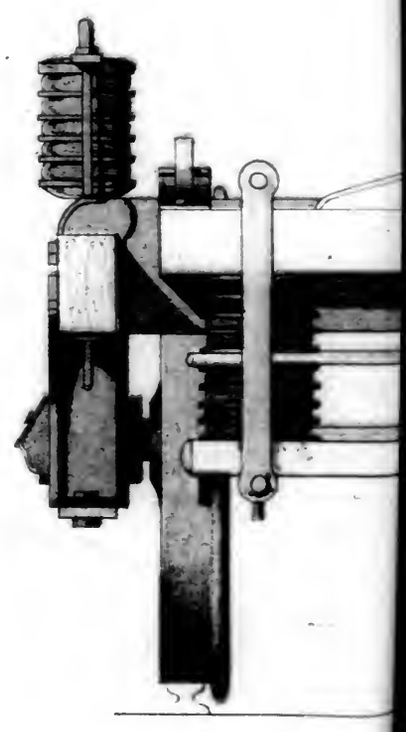


Scale 3 inches to the foot.

1 2 3 4 5 6 7 8 9 10 11 12

Fig. 1.





1 2 3 4 5 6

Owned and Manufactured by the New-Englan

F. M. RAY'S INDIA RUBBER CAR SPRING.

Fig. 9.

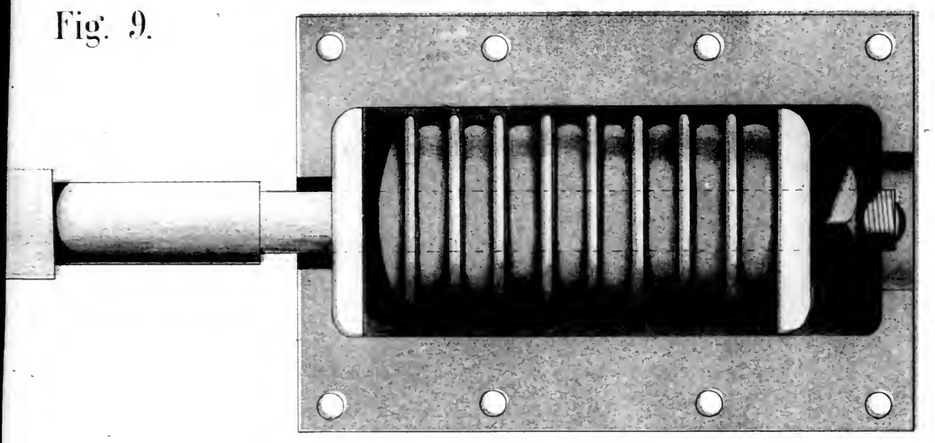


Fig. 10.

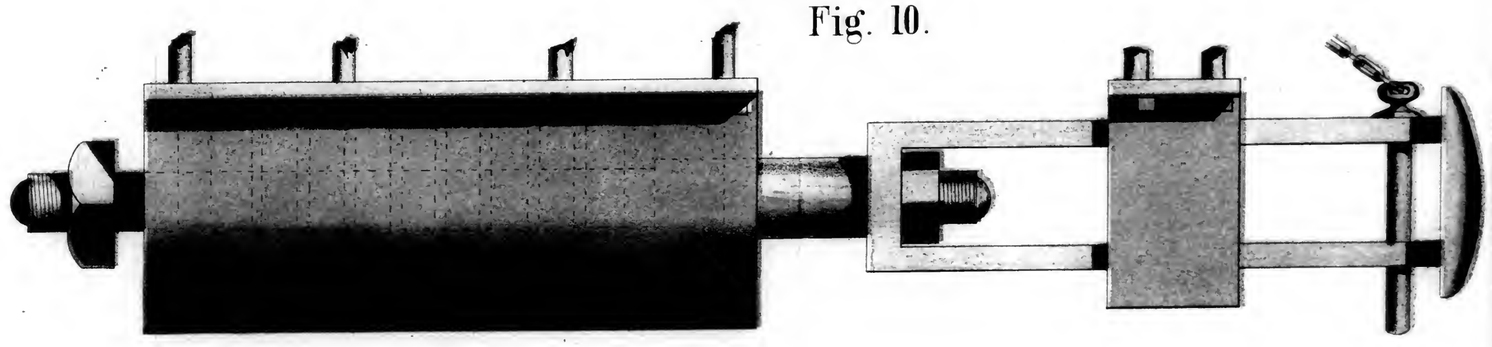


Fig. 4.

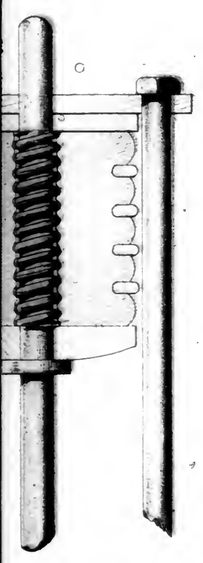


Fig 5.

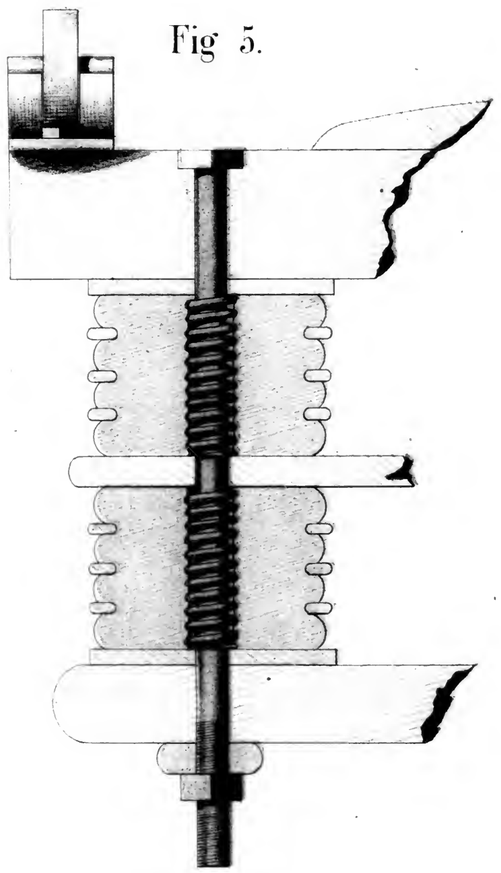


Fig. 6.

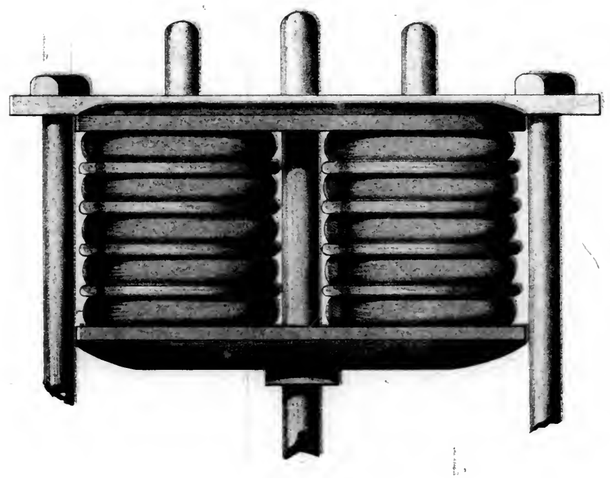


Fig. 7.

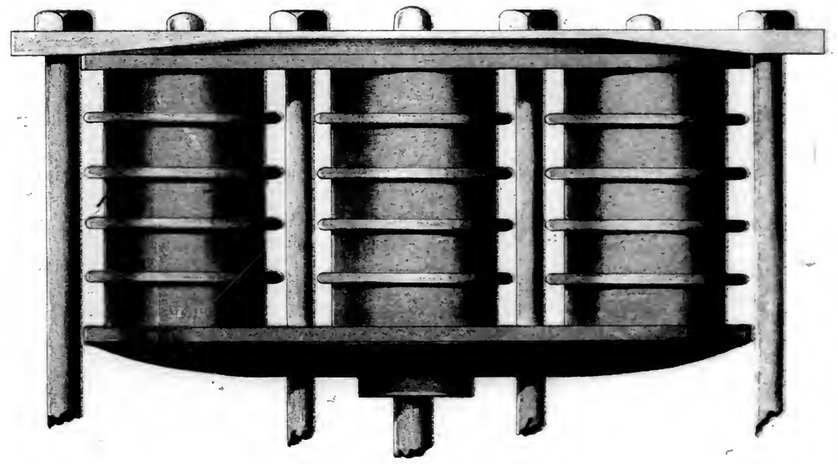


Fig. 8.



Fig. 2.

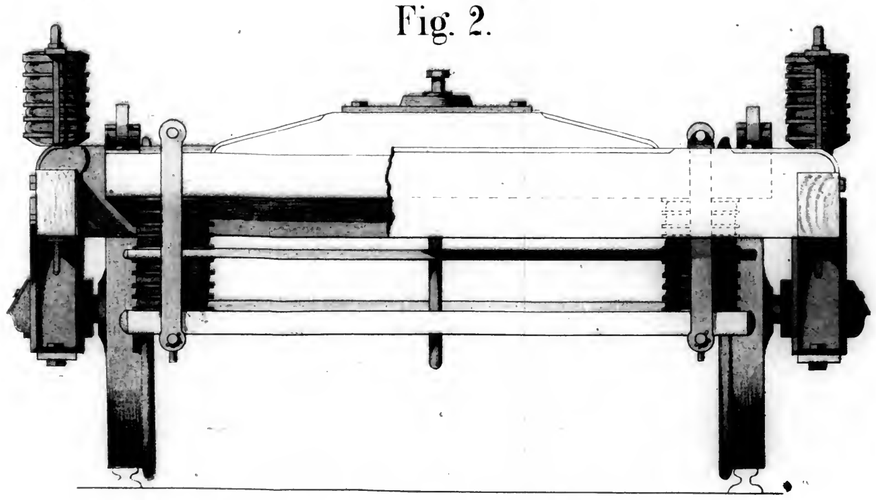
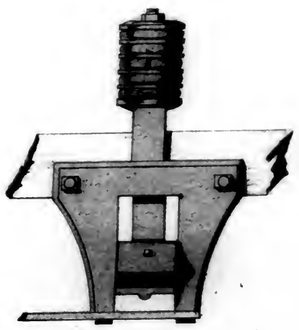
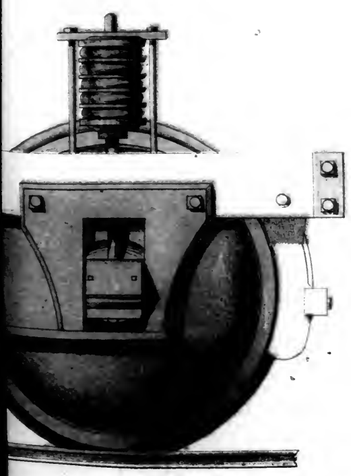


Fig. 11.



Fig. 12.







Owned and Manufactured by the New-England Car Co. Office No. 99 State Street, BOSTON. 100 Broadway N. York.

G. & W. ENDICOTT LITH. NEW YORK.

Name.	Cattle.	Sheep.	Swine.	Tot.
Ardrossan	£30	£20	£6	£56
Chester and Birkenhead.	237	45	12	294
Dublin and Drogheda...	95	57	180	332
Dundee and Arbroath...	28	1	1	30
East. Counties—Camb..	9,864	3,693	178	13,735
" Colches.	2,997	2,454	239	5,690
Glasgow and Greenock.	98	24	—	122
Glasgow and Ayr	213	135	14	362
Great North of England.	—	—	—	4,591
Great Western	7,106	7,460	2,965	17,531
London & Birmingham.	11,715	8,817	6,161	26,693
Grand Junction	9,126	4,000	22,365	35,491
Manch. & Birmingham.	—	—	—	336
London and Brighton...	302	584	100	986
London and S. Western.	1,251	2,083	479	3,813
Manchester and Leeds..	750	1,159	1,630	3,739
Maryport and Carlisle..	20	10	10	41
Midland	—	—	—	8,960
Birmingham and Bristol	352	151	906	1,429
Newcastle and Carlisle.	1,158	1,101	230	2,489
Newcastle & Darlington	—	—	—	2,339
Newcastle & N. Shields.	107	193	7	307
North Union	—	—	—	20,919
Norfolk	3,072	458	16	3,556
Preston and Wyr	74	26	86	186
Manchester and Sheffield	—	—	—	1,420
South Eastern	—	—	—	3,079
Stockton and Darlington	87	32	4	123
Stockton and Hartlepool	16	8	4	28
Ulster	131	21	448	600
York and North Midland	2,360	1,708	240	4,308
Hull and Selby	793	1,491	32	2,226
Total				£167,201

On account of the very imperfect state of the returns, it is impossible to give the proportion paid in 1846 under each head of cattle traffic. In 1845, the proportions were—

Cattle	£30,000
Sheep	26,000
Swine	30,000

The proportion for cattle must now be larger, and that for swine smaller.

In 1847 the number of cattle carried by each company was as follows:

Ardrossan	820	332	760
Chester and Birkenhead..	1,688	6,582	1,065
Dublin and Grogheda....	680	1,794	4,338
Dundee and Arbroath....	325	32	6
Eastern Co.—Cambridge.	14,792	252,680	10,480
" Colchester..	20,722	107,693	26,076
Eastern Union	6,681	19,151	2,420
Ipswick and Bury	1,408	4,848	749
East Lancashire	287	2,290	40
Furness	3	42	—
Glasgow and Greenock..	698	497	—
Glasgow and Ayr	1,759	5,137	332
Great Southern & West..	5,053	14,830	15,846
Great Western	28,231	201,833	14,360
Kendal and Windermere.	108	1,814	73
Lancashire and Yorkshire (M. & L.)	22,429	75,011	20,733
London and N. Western.	161,171	399,998	150,674
London and Brighton....	2,617	28,858	3,018
Londonderry & Enniskillin	28	108	47
London and S. Western..	13,565	75,365	3,462
Manch. and Sheffield*...	6,000	5,000	10,000
Maryport and Carlisle...	924	615	2,282
Midland*	30,000	150,000	30,000
Bristol and Birmingham.	3,526	12,771	10,684
Middlesboro' and Redcar.	251	525	7
Newcastle and Carlisle..	14,599	66,628	9,759
Newcastle and Berwick.	1,908	32,224	597
North Union	6,998	31,185	7,411
Norfolk	38,888	85,349	8,634
Preston and Wyr	2,245	3,788	6,169
South Eastern	7,096	47,167	2,537
Stockton and Darlington.	1,878	2,121	258
Shrewsbury and Chester.	336	1,269	56
South Devon	222	109	6
Stockton and Hartlepool.	698	2,367	592
Ulster	1,273	3,313	13,360
Whitehaven	34	85	—
York and Newcastle	41,399	88,287	9,142
York and North Midland.	41,931	84,656	7,014
Total	483,291	1,995,354	372,987

* Estimated amount.

The whole number of cattle in 1847 will therefore be as follows, allowing for the incompleteness of the returns:

Cattle	500,000
Sheep	2,000,000
Swine	390,000
Total	2,890,000

Making nearly three million head of stock. The falling off in swine arose from the Irish famine.

The number of calves carried in 1847 was as follows:

Chester and Birkenhead	6,534
London and South Western	9,222
Maryport and Carlisle	65
South Eastern	1,062
South Devon	217

The amount of revenue derived from cattle traffic was in 1847 as follows:

Name.	Cattle.	Sheep.	Swine.	Tot.
Ardrossan	£6	£1	£2	£9
Chester and Birkenhead	257	54	20	331
Dublin and Drogheda..	132	65	123	317
Dundee and Arbroath..	28	....	....	29
East. Co.—Cambridge.	15,112	9,656	296	25,064
" Colchester..	2,949	2,710	434	6,093
Eastern Union	444	158	30	632
Ipswich and Bury	102	46	15	163
East Lancashire	11	13	1	25
Glasgow and Greenock	92	21	....	113
Glasgow and Ayr	223	128	22	373
Great Southern & West.	764	584	455	1,803
Great Western	7,864	9,021	776	17,661
Kendal & Windermere.	1	5	....	6
Lancaster and Carlisle.	595	875	....	1,470
Lancashire and Yorksh.	2,192	1,276	844	5,312
London & N. Western.	25,435	16,622	17,223	59,280
London and Brighton..	657	880	200	1,737
London and S. Western	1,808	2,204	138	4,150
Londonderry and Enniskillen	3	2	1	6
Manchester & Sheffield.	....	....	....	3,036
Maryport and Carlisle.	71	10	25	106
Midland	....	....	....	10,270
Bristol and Birmingham	434	380	390	1,243
Middlesboro' & Redcar	9	3	....	12
Newcastle and Carlisle	1,323	1,306	273	2,902
Newcastle and Berwick	71	204	9	284
North Union	....	....	....	15,531
Norfolk	....	....	....	6,598
North British	....	....	....	757
Preston and Wyre	170	38	42	250
South Eastern	....	....	....	3,334
Stockton and Darlington	129	31	3	163
Shrewsbury & Chester.	19	20	1	40
South Devon	11	2	....	13
Stockton and Hartlepool	31	25	6	62
Ulster	172	92	237	501
Whitehaven	2	....	....	2
York and Newcastle	4,255	3,925	286	8,466
York and N. Midland.	2,320	2,068	1,068	5,456
Total				£183,400

The total receipts for cattle traffic in each year were as follows:

1845	£102,000
1846	167,200
1847	183,400

The great advance in cattle traffic was made in 1846; but the progress was not so great in 1847, as there was a positive falling off in the number of swine carried. The greatest increase is in the conveyance of fat stock and sheep.

The following are the proportions of cattle carried in each year:

	Cattle.	Sheep.	Swine.
1845	236,000	1,200,000	550,000
1846	370,000	1,250,000	850,000
1847	500,000	2,000,000	390,000

The cattle carried to the London market in 1847, may be reckoned as follows:

	Cattle.	Sheep.	Swine.
London and North Western.	65,000	200,000	55,000
Great Western	20,000	150,000	10,000
South Western	13,000	75,000	3,000
South Eastern	7,000	40,000	2,500
Eastern counties—Cambridge	10,000	200,000	10,000
" Colchester.	15,000	75,000	20,000
Brighton	2,500	25,000	3,000
Total	132,500	765,000	103,500

The number of cattle sold in Smithfield in 1846 was 213,525, and of sheep 1,527,220, so that the railways must have engrossed a considerable part of the cattle traffic. For the conveyance of cattle to the London market the railway companies receive at least £75,000.

Great reductions have been made in the charges for the conveyance of cattle since 1845. The charges are as follows:

	Cattle.	Sheep.	Sw.
	d.	d.	d.
London and North Western, 1845..	1·020	·160	·160
1847..	·626	·135	·145
Eastern Counties—Cambrid'e, 1845..	·980	·200	·400
1847..	·943	·143	·107
" Colchester, 1845..	·980	·200	·400
1847..	·890	·153	·173
Great Western 1845..	1·530	·156	·188
1847..	·819	·156	·188
York and North Midland 1845..	·500	·200	·500
1847..	·500	·200	·500
Lancashire and Yorkshire 1845..	·870	·250	·250
1847..	·766	·177	·373
London and South Western. 1845..	1·750	·200	·500
1847..	1·460	·160	·190

No reduction has taken place on the York and North Midland railway, because the rates were already low.

The largest cattle traffics in 1846 were as follows:

	Cattle.	Sheep.	Swine.
London and North Western.	96,612	277,800	358,087
Eastern Counties—Norfolk and Eastern Union	77,804	216,775	14,430
Great Western	20,389	165,860	53,702
York and North Midland & Hull and Selby	40,319	109,992	5,225
Great North of England	27,625	32,466	3,300
Lancashire and Yorkshire	10,448	66,029	40,346
South Western	6,390	62,454	5,412
North Union	5,996	25,679	7,796
Newcastle and Carlisle	11,009	49,263	8,291
South Eastern	3,892	48,344	5,224
Newcastle and Darlington	16,521	36,505	3,376
Manchester and Sheffield	416	30,030	6,240

The gross amounts received in 1846 for cattle traffic range as follows:

London and North Western	£62,820
Eastern Counties, etc	28,971
North Union	20,919
Great Western	17,531
Midland	8,960
York and North Midland, etc.	6,534
Great North of England	4,591
London and South Western	3,813
Lancashire and Yorkshire	3,739
South Eastern	3,079

The largest cattle traffics in 1847 were as follows:

	Cattle.	Sheep.	Swine.
London & North Western.	161,171	399,998	150,674
Eastern Counties	82,491	469,721	48,359
Great Western	28,231	201,901	14,360
York and North Midland..	41,931	84,656	7,014
York and Newcastle	41,399	88,287	9,142
Lancashire and Yorkshire, (M. and L.)	22,449	75,011	20,733
South Western	13,565	75,365	3,462
Newcastle and Carlisle	14,599	66,628	9,759
North Union	5,996	25,679	7,796
South Eastern	3,592	48,344	5,224
London and Brighton	2,617	28,858	3,018
Newcastle and Berwick	1,908	32,224	597

The following will show the progress of the cattle traffic of the principal companies:

London and North West.	Cattle.	Sheep.	Swine.
1845	61,466	229,245	315,989
1846	96,612	277,800	358,087
1847	161,171	399,998	150,674
Eastern Counties.			
1845	20,661	125,564	4,228
1846	77,804	216,775	14,430
1847	82,491	469,721	48,359
Great Western.			
1845	14,058	172,264	52,443
1846	20,389	165,860	53,702
1847	28,231	201,901	14,360
York and North Midland.			
1845	15,364	88,143	31,708
1846	40,319	109,992	5,255
1847	41,931	84,656	7,014
York and Newcastle.			
1845	19,685	20,000	5,000
1846	44,146	68,971	5,531
1847	41,399	88,287	9,142
Lancashire and Yorkshire.			
1845	9,686	149,022	27,485
1846	10,448	66,029	40,346
1847	22,449	75,011	20,733
South Western.			
1845	2,763	53,441	3,089
1846	6,390	62,454	5,412
1847	13,565	75,365	3,462
Newcastle and Carlisle.			
1845	3,782	37,525	5,116
1846	11,009	49,263	8,291
1847	14,599	66,628	9,759

The Belgian cattle traffic from the returns was as follows:

	Cattle.	Sheep & Swine.
1843	8,609	33,562
1844	12,691	39,056
1845	7,597	29,704

Taking the saving by conveyance of cattle on railways at 10 lbs. per quarter, 2 lbs. for sheep, and 5 lbs. for swine; or 40 lbs. per beast, 8 lbs. for sheep, and 20 lbs. for swine, the gross saving in 1846 will be—

On 370,000 cattle,	14,800,000
1,250,000 sheep,	10,000,000
850,000 swine,	17,000,000
Total,	41,800,000 lbs.

The gross saving of animal food on the cattle conveyed by railway in 1847 was as follows:

On 500,000 cattle,	20,000,000
2,000,000 sheep,	16,000,000
390,000 swine,	7,800,000
Total,	43,800,000

In the late report on Smithfield market, some evidence is given bearing on the question of the conveyance of cattle by railway.

Mr. R. Healy said that there is a much greater quantity of dead meat brought to the London markets in consequence of railway communication. By means of the railways, great quantities of hind quarters of mutton are sent up from the country, as the butchers there kill large quantities of sheep and sell the fore quarters at home among the population there, and send the hind quarters by railways to London.

Mr Langham, a butcher, said that country killed meat is better than town killed meat, and that it comes in excellent condition from Scotland. It is the general opinion of butchers that this is the case.

Mr. Hicks, the salesman, said that he has a very large quantity of meat sent up from the country by railway, and that it is not damaged by the journey even in hot weather. He has used the electric telegraph to obtain a supply of meat from the country. A communication was sent the same night by the country grazier that he would send up 600 or 700 stone of meat by the next morning's train. At 1 o'clock in the morning it started from Ipswich, and before 5 o'clock it was in his premises in Newgate market on sale, having been alive the day before. Mr. Hicks has sometimes 300 carcasses on a Monday.

Mr. Langham likewise stated, that since the railways have been opened, a country trade in meat has been growing up. Beasts have been sent from Smithfield to Liverpool, and he has seen immense quantities of meat going down to Birmingham. The south country is also supplied from the London market with beef—Brighton in particular. The Brighton butchers are frequently seen in Smithfield purchasing cattle, which they take down with them the same day. Sometimes as many as 300 or 400 beasts have gone down by the Birmingham railway on a Monday.

These facts will show the nature of cattle traffic on railways.

RAILROAD IRON--SHEET IRON-- BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

TO CONTRACTORS.

SEALED proposals will be received at the office of the Lafayette and Indianapolis Railroad Co. in Lafayette, until the 11th day of October next, for the Grading, Masonry and Bridging of that part of said road lying between the summit south of Durkee's Run, near Lafayette, and Lebanon, in Boone county, about 34 miles. Also, for the wooden superstructure for the same, in a distinct bid.

Plans and specifications will be exhibited by the engineer. By order of the Board.

ALBERT S. WHITE, Pres't.
Lafayette, Aug. 17, 1848. 6t35

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.
☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS, } SPRINGFIELD, MASS.
1y48

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelp'a.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, Slabbing, Plaining, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at
39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

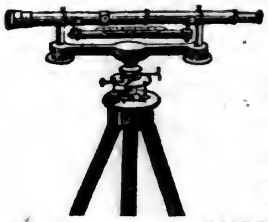
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S.E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*. and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

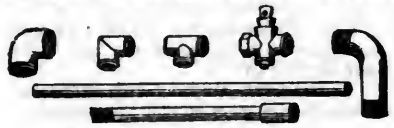
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



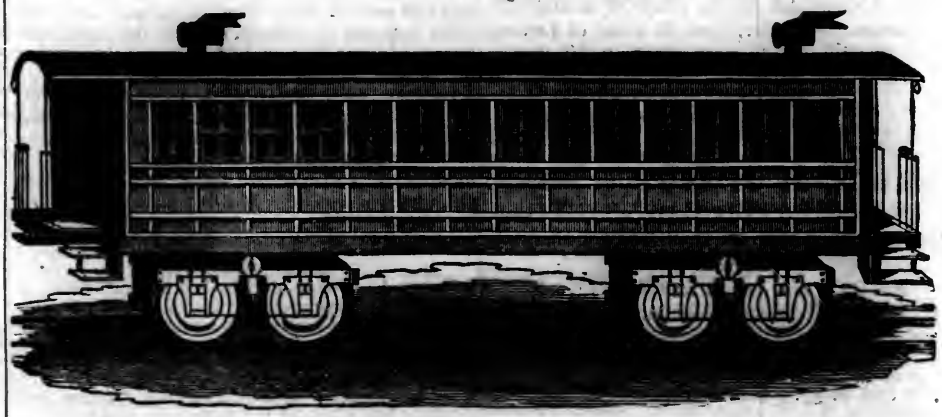
Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

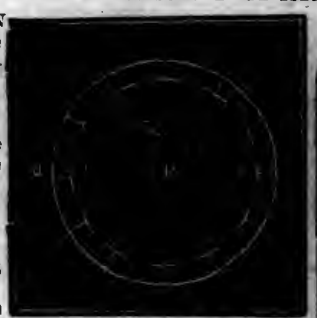
Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2¼ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year, on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

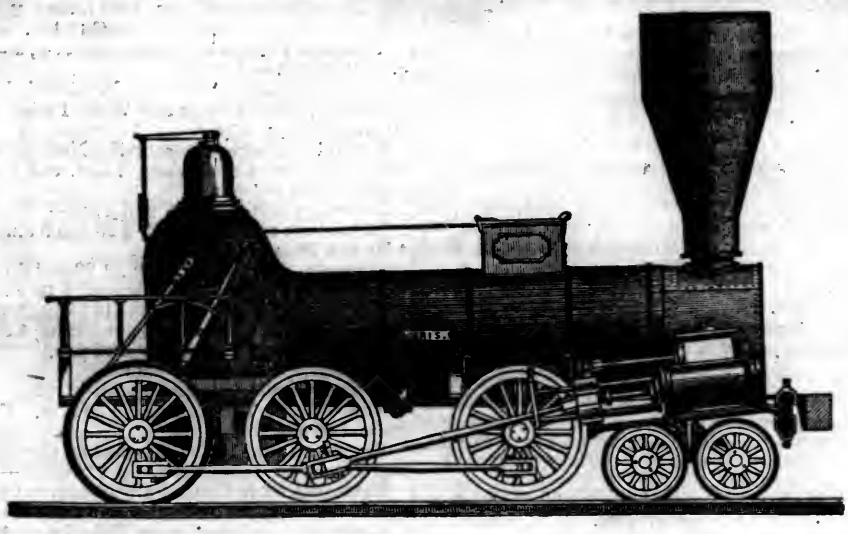
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

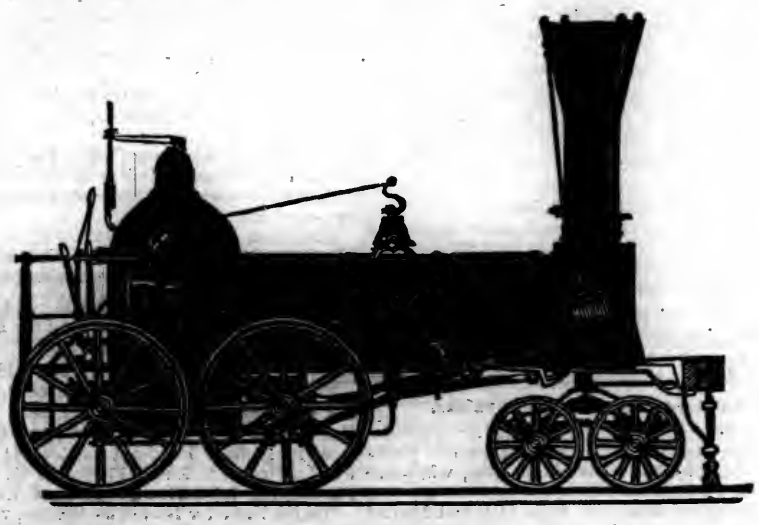
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons..... $5 00 per hhd.
On molasses and oil..... $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.




SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves.... Albany....	7½ A.M..	2 P.M..	7 P.M.
Pass..... Utica.....	1 P.M..	7½ P.M..	1½ A.M.
Pass..... Syracuse...	4½ P.M.	11 P.M..	5 A.M.
Pass..... Auburn....	6½ P.M..	1 A.M..	7 A.M.
Pass..... Rochester.	12½ M.N..	7 A.M..	1 P.M.
Arrives at. Buffalo....	5½ A.M.	12 M.....	6 P.M.

Going east.	1st train.	2d train.	3d train.
Leaves.... Buffalo....	7½ A.M..	2 P.M..	7 P.M.
Pass..... Rochester.	12½ M....	7 P.M.	12 M.N.
Pass..... Auburn....	6½ P.M..	1 A.M..	6 A.M.
Pass..... Syracuse...	8½ P.M..	3½ A.M..	8 A.M.
Pass..... Utica.....	12 M.N..	7 A.M.	11½ A.M.
Arrives at. Albany....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, Jr.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—




Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.
Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.
Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.
Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.
White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.
Pleasantville, 8 15 a.m. and 5 15 p.m.
Newcastle, 8 a.m. and 5 p.m.
Mechanicsville, 7 48 a.m. and 4. 48 p.m.
Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS. the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.
Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.




Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAIL-

road. Summer Arrangement. On and after Monday, April 3, 1848, the




Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pitsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAILROAD. Summer Arrangement.—1848.

A accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Ja., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield... 2 00
" " " Columbus... 4 00
" " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

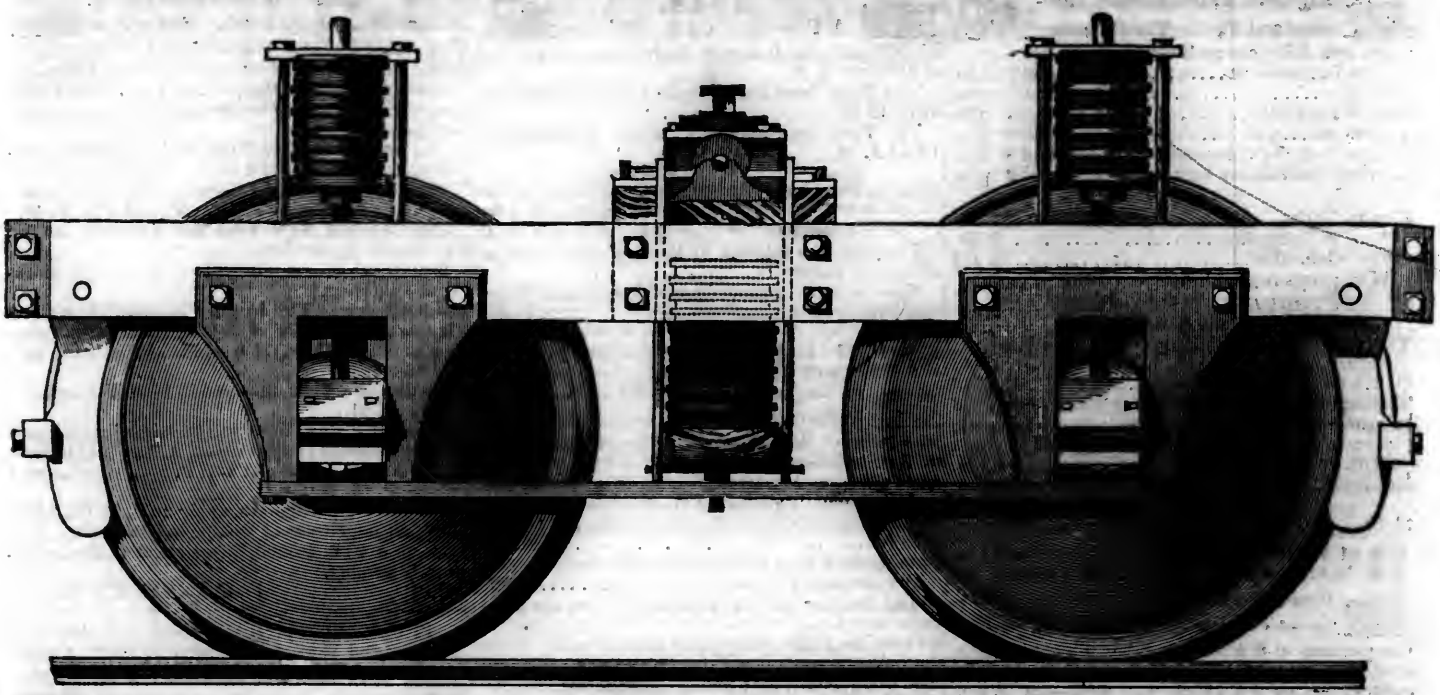
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with F. M. RAY, 100 Broadway, or with WM. RIDER & BROTHERS, No. 58 Liberty street, New York.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance*.

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One column " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 39] SATURDAY, SEPTEMBER 23, 1848 [WHOLE No. 650, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, September 23, 1848.

☞ REMOVAL.

The Office of this Journal is removed from the *Franklin House*, to No. 48 SOUTH THIRD STREET, *third door north* of the *Girard Bank*.

*** A *special request* is hereby made, to those to whom Circulars have been recently addressed, that they will respond promptly to them, as an important question—to *us* at least—is to be decided in accordance with the response given to the request made in those circulars.

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.

Boston and Montreal Railroad.

The Belknap Gazette, of 26th ult., says that this "railroad is succeeding wonderfully well; we understand, though we don't know as we are authorised to tell of it, that its earnings for passengers alone amount to ten or twelve hundred dollars a week.—At this rate its whole earnings must be at the rate of eighty or ninety thousand dollars a year. This will do very well for a road costing only $450,000." And we learn from the same paper that a site and water power have been purchased in the village of Meredith Bridge, and the work of erecting buildings for the manufacture of railroad cars on an immense scale, has been commenced, and is going on with vigor. The buildings are to be three in number—one of 300 feet in length, and two of about 70 feet each. They are to be located on the bank of the river, and contemplate an investment of about $30,000.

Thus we see the influences of railroads on interior villages. They open the way for kinds of business which would never have been attempted without them.

The Plough, the Loom and the Anvil.

We noticed in our last number this valuable publication, but omitted to mention two very important facts—*where*, and *by whom*, it was published. The omission may not, however, be without its advantages, as it requires us to refer again to the subject, and thus again to call the attention of our readers to a work *deserving* of a nation-wide circulation, and to be in the hands of every *farmer*, *mechanic* and *manufacturer* in the *Union*.

"THE PLOUGH, THE LOOM AND THE ANVIL," is a *continuation* of that valuable periodical, the "FARMER'S LIBRARY," recently published in New York with such signal advantage to the agricultural community by *Greely & McElrath*, and edited by that veteran of the *agricultural* press, JOHN S. SKINNER—than whom, *few*, if any, in this country have done as much *for*, and, therefore, few are deserving as much *from*, the farmer. It is published in Philadelphia, at the Agricultural Rooms, in Washington Hall, South Third street—by JOHN S. SKINNER & SON, in monthly parts, at $3 a year, or *two* copies for $5, and *five* copies for $10, which brings it within the reach of every farmer and mechanic in the country.

We continue, in this number, the article on "The Iron Trade of the Union," which was commenced last week, and again ask for it an attentive perusal, as it will give a good idea of the character of the work from which it is taken.

That the editor will bring to his aid, in his labors, rich stores of practical information, may well be imagined by those who are familiar with his history, and who profited by his labors in the cause of agriculture, while editor of the "*American Farmer*," published in Baltimore more than a quarter of a century ago, as well as by those who have more recently been instructed by his efforts in the "Farmer's Library;" we hope, therefore, that he may derive from this enterprise a rich harvest in return for a long life of usefulness to his countrymen.

India Rubber Car Springs.

Since the publication of our last number we have had an opportunity of riding in two railroad cars—one upon the *Harlem* road, and one upon the *New Jersey* road, from Jersey City to New Brunswick—fitted up with *India rubber springs*, and must say that, for ease, and quietness, they exceed most other cars in which we ever rode.

The difference between these cars and others, on steel springs, in the same train, was manifest, especially when reading—and it appeared that, while in the cars with India rubber springs, the track was in much better *repair* than when in the other cars.—The apparent difference arose from the greater elasticity of the rubber springs, which continued to yield as long as additional weight was applied, and to return on passing any inequality, however small. Of their comparative durability we cannot speak—though we see no reason to doubt their durability.

This point will, however, be soon tested, as they are coming rapidly into use, on several roads.

For the American Railroad Journal.

Inclined Planes vs. Locomotive Power.

The question whether it is best to overcome a certain elevation by steep planes, or easy grades, is of great importance at this present moment. In this country, as well as in Europe, engineers and railroad companies are undecided which plan should be adopted. In the south of Europe, where one of the great continental lines is to cross a spur of the Tyrol Alps, the question is still in agitation, as to the two modes of effecting a passage.

Public opinion has of late years decided against planes, and those entrusted with the location of railroads, have in most cases abided by this decision. The profession, however, should not be guided by public sentiment, but rather lead it. I here propose to review this question generally, without entering into details.

When a mountain or any other elevation can be overcome by a graded line, without deviating much from the direct course, or without increasing the distance much, it should be done in preference to planes. But when a circuitous route has to be adopted in order to obtain the necessary distance required for

overcoming an elevation at a certain grade, it will be advisable in most cases to resort to inclined planes, provided such planes can be located in or near the direct course of the route. Saving of distance is the great object in the location of railroads. On several railroads in this country there are grades as high as 80 feet per mile, while the greater portion of the grades are less than 42 feet per mile. It is the practice sometimes to employ on such grades two locomotives in place of one. The expense of locomotive power is thereby increased in proportion. It it not to be denied, however, that such high gradients are very objectionable in high and elevated regions, where the adhesion of locomotives is much reduced in winter by rain and sleet, and where, on account of the accumulation of snow, it becomes very important to shorten a line as much as possible.

As regards the relative expense of locomotive and stationary power, it is generally admitted that the latter is most economical, in first cost as well as maintenance. Theoretically it is also true, that the amount of mechanical power, required to raise a weight to a certain height or to overcome an elevation either by light or steep grades, is the same in either case, leaving friction out of view. There are strong considerations in favor of inclined planes, where a great distance can be saved thereby. But a number of very serious objections are raised against planes, which I now propose to examine.

1. Supposed increase of expense in working the planes. Whether a plane of a certain height is more expensive in its working than a light grade, overcoming the same elevation, will depend upon the difference of distance between the two routes, consequently upon the difference of interest on first cost; upon the amount of transportation, and its nature; and mainly upon the construction and management of the plane.

The two first items are matters of comparative estimates, and can be ascertained. The first cost of a stationary engine is to be set against one or two locomotives, as the case may be; the amount of fuel to be burned in either case; repair of machinery and of road, etc. On a coal railroad, where the transportation is regular and heavy, the comparison will in all cases, be greatly in favor of planes. The more the business of another road approaches that of a coal road in bulk and regularity, the more favorable planes will appear.

The success of planes, however, will mainly depend upon their mechanical construction and management. I will refer to this after stating the other objections.

2. An increased danger is supposed to be connected with inclined planes; and

3. A great loss of time, one of the most serious objections on a passenger road.

The value of these objections have been greatly reduced by late improvements, which have been successfully applied in the construction as well as management of planes, and can be still further reduced by arrangements which will readily suggest themselves as simple and effective. As a proof how eminently successful planes are worked in an economical point of view, against graded lines, I need only point to the anthracite coal region in Pennsylvania. The planes on the Lehigh works, and of Carbondale railroad, may be cited as an instance.

By the successful introduction of wire ropes in place of hemp ropes, this item of expense has been reduced about one half, while the capacity of planes is thereby increased. Where a heavy trade is to be accommodated, the stationary power and ropes can be made strong enough to take up a whole train and locomotive, if necessary. Where the number of trains is limited, it will be good economy to divide a train. It is, however, a very important feature in the working of planes, that by means of wire ropes they can be adapted to nearly the same amount of business which can be none on a graded line. Passenger trains can in all cases be passed without dividing them, to avoid delay—and it properly managed, in less time than can be done on a graded line. The rapidity with which the planes on the Portage railroad, in Pennsylvania, are worked prove to some extent what can be done. The planes on the Lehigh and on the Carbondale railroad are worked still more expeditiously. It may be considered as established, that in point of time, planes, if properly constructed and managed, are more expeditious than graded lines overcoming the same elevation.

The last point to be considered is the supposed danger of planes. The causes of danger are, the breaking of a rope, and upsetting or breaking of cars. The first cause is greatly removed by the use of the wire rope, which will never give way suddenly without showing evident signs of failure long before. If any attention is paid to it no breaks can occur. But if it does occur, the danger of the cars running down is entirely avoided by the use of a safety car. These safeties can be constructed on different plans, which will all perfectly fulfil the object intended. Those in use on the Portage planes, are of a light construction, attached to the rope in front of descending, and rear of an ascending, train. Their action depends upon the adhesion of their soles upon the rails, when pressed down by the weight of a car broke loose and run upon it. If properly constructed, they will afford perfect safety. To insure this, however, and at the same to prevent cars from upsetting or running off the track, the latter should be laid with a good T or H rail, and provided with strong fender beams inside. Should an axle break, the body of the car will sink upon the fenders and slide down safe. A safety car of a very ingenious construction, which acts upon a rack rail, and affords perfect safety, is now in use on the Lehigh planes, which rise 1 in 4½, and where 17 empty coal cars are passed at one time. The system on which those planes are worked, has some admirable features, which might be advantageously applied to planes accommodating a similar business. By a proper construction of the driving sheaves, the slipping of the ropes can be altogether avoided so as to have an abundance of adhesion in all stages of weather. In this respect these planes have a decided advantage over locomotive levels, when the rails are slippery. This is an important consideration in the winter season, and in a mountainous region.

I should like to have the views of the profession in this country, on this subject, expressed through the Railroad Journal. AN ENGINEER.

☞ So should we like to hear from the profession on this subject.—[ED. R. R. J.]

English Railway Traffic.

"From our official returns," says the Chronicle, "it appears that the amount of traffic for the last week, on 4,045 miles of railway, was £231,828, thus accounted for: £132,796 for the conveyance of passengers only, £46,677 for the carriage of goods, and a remainder of £52,355 for passengers and goods together, not respectively apportioned; being an increase of £19,913 over the corresponding week o last year, when the mileage was 3,230. The average earnings per mile were £58, while in 1847 they were £65."

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 9th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Sept. 11.	7,456 15.	164,766 10
By Room Run ..... "	3,873 08..	82,975 07
By Hazleton.....	2,107 00..	64,407 00
By Beaver Meadow.....	2,566 06..	51,075 09
By Spring Mountain.....	2,550 03..	46,563 00
By Buck Mountain.....	1,042 07..	49,551 10
By Cranberry Mines.....	....	7,880 00
White Haven.....	753 14..	7,055 14
Sugar Loaf.....	43 18..	686 04
Total.....	20,393 12.	474,960 14

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 14th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven.....	8,552 00
" Pottsville	4,227 01
" Port Carbon.....	6,758 04
" Port Clinton.....	2,648 08
Total this week.....	22,185 13
Total this year.....	898,734 01

The amount of coal brought to market by the Schuylkill canal during the week ending the 14th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon.....	7,742 02
" Schuylkill Haven.....	4,065 13
" Port Clinton.....	947 14
Total this week.....	12,755 09
Total this year.....	298,567 15

Recapitulation.—Total Shipments this Season.

By Lehigh companies.....	474,960 14
By Reading railroad.....	898,734 01
By Schuylkill canal.....	298,567 15
Total	1,672,262 10

South Carolina Railroad.

Their Condition and Prospects

Continued from page 597.

The Camden branch above alluded to, and condemned, is laid, we understand, in the following manner, viz: a rail of 51 lbs. to the yard, upon crossties, 5 x 12 inches, 8 feet long, placed 2½ feet from centre to centre—without mud sills. This would be considered a very good road in most places, though it would be *smoother* if laid upon mud sills.

The committee refer also to other matters of which we cannot judge so well, at a distance—we therefore omit them, and pass to their general remarks, in which they say:

"There are many other subjects connected with the road and its administration which have occupied the attention of your committee, and to which the want of time and the limits of a report will not permit them to do more than briefly to advert, and to claim for them the consideration of the stockholders. Among these are the systematic division and arrangement of duties appertaining to the several departments, a proper supervision of them, and a system of accountability for the property and materials which are placed under charge of the different persons engaged in the company's service. The real estate of the corporation, not necessary for immediate uses, or not productive of revenue, should at once be disposed of, as it is alike foreign to the objects of the charter, and the interests of the com-

pany; that any portion of their capital should be thus invested.

"To the expenses of the road also, it is particularly desirable that the company should give special attention. The committee have ascertained that there are upwards of seven hundred and fifty persons in the constant employment of the company, and that the sum annually paid for personal service only, varies between two hundred and twenty five thousand and two hundred and thirty thousand dollars. How far this amount of labor is absolutely required, or whether any portion of it might be dispensed with by the exercise of a judicious economy and an efficient supervision, are subjects upon which we do not feel qualified at this time to pronounce a decided opinion. We are satisfied that the adoption of our suggestion in relation to the depot will go very far towards effecting a reduction in this item of expenditure; but the subject should be recommended to the special consideration of the directors, with a request to diminish the expenses in this department, so far as may be consistent with the exigencies of the service.

"With respect to the officers of the road, your committee will take this occasion to say that while they would urge the strict and regular discharge of their duties, they are of opinion that no reduction should be made in the salaries paid by the company.

"There is one subject connected with the income of the road which we think requires some regulation. The company is obliged, at certain points, to enter into competition with other modes of conveyance, and even with other roads. To secure business, it frequently becomes necessary to lessen the rates of transportation from these points.—We think the president should be empowered to make such arrangements, without at the same time being compelled to alter rates at other points where the same necessity does not exist. In the one case the business may be lost to the road entirely unless the reduction is made; in the other, the parties are only required to pay an ordinary and reasonable compensation for services rendered.

"It seems to your committee that the number of directors is much larger than is either necessary or useful. It is a fact well understood that the feeling of responsibility is weakened by being divided among many, while it is augmented by concentration in the hands of a few. There is also greater difficulty in getting them together, and when assembled, there is far less of harmony in their deliberations and efficiency in their action.

"The committee have embodied their views in a condensed form, in relation to this and other subjects, in a series of resolutions, which will be submitted to your consideration.

"In conclusion, the committee take great pleasure in acknowledging their obligations to the officers of the company, for the facilities afforded them in the progress of this investigation. They feel much gratified also in testifying to the ability and fidelity with which the business of transportation, in all its various departments is conducted. The mail and passenger trains have been carried with a certainty and regularity not surpassed by any road in the United States, while the freight trains have been forwarded with promptitude and despatch. Casualties on the road, either to the persons or machinery engaged upon it, have been rare, and we believe that since its establishment in 1830, a period of 18 years, of the many thousands of passengers who have travelled over it, but few have sustained personal injury, and not a single instance has occurred resulting in the loss of life. In this respect it may safely challenge comparison with any road, either in this country or in Europe.

"In coming to a close, the committee take occasion to state, that they terminate their labors with undiminished confidence in the success of the road, and in full assurance that it will prove a profitable investment to its stockholders. Its location as one of the main trunks connecting the Atlantic seaboard with the internal communications of the southwest, the new routes now in projection in our own and the neighboring States, the constantly increasing income which has already been realised, surpassing our anticipations, all tend to confirm the impression that there is no description of property within our limits which is more intrinscally valuable, or that will more certainly afford an abundant remuneration.

All which is respectfully submitted.

Signed:—Benj. F. Pepoon, Edw. Carew, J. M. Dwight, Thomas Lehre.

The foregoing report was made by a majority of the committee—while the minority made a distinct report, from which we make the following extracts. The minority see some things through different glasses from the majority, and we are inclined to the opinion that they know *something* of the *practical* operations of the company. It is an easy matter for many excellent people to find a great deal of fault with what they do not understand. We have known men—very excellent men—who had been brought up in a *counting house*, or in a *broker's office*—placed in charge of a railroad, of which they knew nothing—except the price of its stock—where they assumed to direct in minute details, instead of following the advice of long experienced and practical men.

Of the detail, or general management, of this road we know very little, but we *do* know something of some of its officers, and are *much* mistaken if they are not able, intelligent and efficient in their respective stations, and so seem to think the minority.—They say:

"The undersigned, a minority of the committee appointed at the last meeting of the stockholders to examine into the general condition of the affairs of the company, respectfully submit the following as the result of their labors:

"The South Carolina rail-road, it must be borne in mind, was built in the infancy of railroads. Its original construction was defective, and it would be unfair and unsatisfactory to institute a comparison between a road thus built and one constructed in the present advanced state of improvement and knowledge in railroad matters.

"The undersigned deem it unnecessary to go into an argument to prove that the expense of keeping in repair a road originally constructed for engines of light weight and low speed, must be greatly increased by substituting heavy engines and high speed. Other difficulties in the economical management of the road, resulting from the same cause, might be pointed out; but as they desire to condense their report as much as possible, they refrain from alluding to them. Keeping then the above fact in mind, the undersigned do not hesitate to assert, (and their opinion rests on no little personal observation and travel on other roads) that the present general condition of the South Carolina railroad will compare most favorably with nine-tenths of the roads of this country. In all that concerns the comfort and safety of the traveller; in the regularity of its trips: in freedom from accidents and detention: in the neatness and convenience of the cars: in the politeness and attention of its officers: it may fearlessly invite comparison with the often quoted and greatly lauded roads of the north; and as mail carrier it stands, and has been ranked by the postmaster general in the first class.

"That in a road of upwards of 200 miles, there should be occasional defects, must naturally be expected. Timber will rot, iron wear, screws and wedges work loose, ditches fill up, and the roadbed in certain places will sink. These are matters against which human foresight and skill cannot effectually guard. While, therefore, so far as the actual condition of the road is concerned, they are gratified in being able to state that there is no ground to charge upon the present government of it gross negligence or a want of proper care and concern for the true interests of the company, they would still recommend increased vigilance and energy on the part of those entrusted with its management, as the most effectual remedy for such deficiencies as do exist, and the surest means of enhancing the value of its stock. From this general approbation of the condition of the road, the undersigned except the trestle work in the Congaree swamp, which they think was originally badly built, and is at present rapidly decaying. The committee are now renewing entirely this work, and, as it seems, of solid materials, and on a substantial plan.—The number of officers, agents, laborers, etc., in the employment of the company is large, and to one unacquainted with the extent and ramifications of its business would seem to be large beyond all reason; but from all the information obtained, the undersigned are not prepared to say that the number is greater than the actual business of the company demands. The services required of these officers are arduous, constant and highly responsible. Their compensation is fair and reasonable, and the stockholders have just ground of congratulation that they have been able to secure the services of a corps of officers whose promptness, efficiency, ability, and respectability it is confidently believed cannot be surpassed by any similar body of men.

"The question now naturally suggests itself, if the general condition of the road and character of its officers are such as we have represented, why has the stock depreciated? and why was there a failure to declare a di-

vidend? Without undertaking to argue these points at length, it is sufficient to say, that during the same period, all stocks and all property have depreciated more or less, growing out of a state of things which no foresight could have anticipated, and no skill have averted. The failure to pay a dividend no doubt increased the depreciation of this stock, but it is quite evident that the payment of one could not have prevented it. The non payment of a dividend, though it may have disappointed the expectations of the stockholders, is no just cause of alarm as to the value of the stock, and is chargeable neither to a want of prudence nor skill on the part if the government of the road. The expenditure on the Camden branch, and the large outlay for additional car and motive power, *both* under the express instructions of the stockholders, absorbed the funds of the company, not *wastefully, but for improvement, increasing the value of its property:* and when to this is added the fact that the produce of the country was not sent forward as early as usual, it seems to the undersigned there can be no difficulty in understanding why there was no dividend. In thus being able, after a most thorough and searching investigation, to testify in favor of the general good condition of the road, and the ability and fidelity of the officers of the company, the undersigned would not be understood as contending that they saw nothing to disapprove either in its management or the policy adopted by the direction."

In relation to the tariff of freight and rates of fare they say:

"The tariff of freight and the rate of passage on the road are, in our opinion, too low, and a just regard for the interest of the company requires that they should be raised.—As this is a matter which can be safely determined only by experience, they would simply remark that the true tariff at all times whether high or low, is such a one as will insure the greatest revenue."

It is true that the rates of freight are *comparatively* low—as will be seen in the annexed statement—but not so in relation to fares, which are nearly *five* cts., or 4·96 per mile.

The statement is from the Railroad Journal, of July 22d, and is as follows, viz:

"South Carolina, 136 miles—iron, 25 cts. per 100 lbs.; corn and grain, 7 cts. per bushel; sugar, salt, butter, 25 cts. per 100 lbs.; light, bulky merchandise, 8 cts. per cubic foot, through; horses, each $8; 4-wheeled carriages, $10, through; passenger fare, 1st class, $6 75, or 4·96 cts. per mile."

The charges through, or for 136 miles, would be low, in the *south*, for one hundred miles—and we think the South Carolina and Georgia roads would be fully justified in raising their freights.

In relation to the location of a permanent depot, there is no difference of opinion in the committee, which *we* regret—as we hoped to find friends to the water location in some of its members.

Not so, however, in relation to the inclined plane—as they think it will answer quite well, if well managed. They say:

"The inclined plane at Aiken has long been a subject of discussion among the stockholders, and where men of reputed sagacity, and greater experience, have at one period advocated and subsequently condemned it, the undersigned submit their views on the subject with great diffidence. As a general remark, inclined planes are objectionable, and in the construction of roads should be avoided, when this can be done at a reasonable cost. If this were a question of original construction, it would be one of easy solution. This, unfortunately, is not the case.

"From the best lights afforded, the undersigned are of opinion, that this evil, its difficulties, delays and dangers, have been vastly exaggerated. Its past history proves, beyond all question, that it has been able to do all the business that has offered—has occasioned no losses of the mail, and involved no sacrifice of life. It is the opinion of experienced engineers that this plane, with heavier locomotives, can be made to do even ten times the business it has ever done. Mr. Tupper, the former able and esteemed president of this company, while he condemned inclined planes generally, gave it as his opinion that turning this plane would not save one dollar of expense to the company. When to all this is added, the very material fact that the company have not the means, and from the signs of the times will not be able soon to obtain them, to accomplish the objects even if most imperiously demanded, it seems to the undersigned there is an end of the argument. At a more convenient period, and under the heavy pressure and great profits of that large increase of travel and great accession of business to the city of Charleston, which the sanguine so confidently predict, and the more cautious ardently hope may be in store for us, the subject can be more safely approached, and more easily disposed of."

They also say—and *we fully coincide with them*—that,

"In view of the want of confidence in the management of the road which prevails to some extent, and the alarm and clamor excited against it, for which the undersigned think there is no just ground, they cannot close this report without the expression of their abiding conviction, notwithstanding present troubles, and in spite of all efforts to destroy public confidence and depreciate its stock, that a bright prospect is unfolding itself; and the day is not distant when its stock will be the most valuable and popular in the state. Its location making it inevitably an important link in the great thoroughfare of our amazingly growing continent—its numerous feeders already projected, and sure of completion, penetrating portions of our country shut out from us by nature, and destined to introduce to us a population unknown, and pour into our cherished city a trade as various as it is boundless, constitute advantages in its favor which cannot be too highly estimated, and should secure for it the unshaken confidence and unwavering support of every true hearted Carolinian."

We thus close our extracts from the proceedings of the committee, which gives something of an insight into the condition of the road, and into the disagreements among the shareholders; but to us, at a distance, who are not familiar with the secret springs of action, it is not so easy to understand the *cause* of these disagreements.

In the report of the minority of the committee, as in that of the majority, we are disappointed in relation to the permanent depot. They barely refer to the "desire, on the part of some, to locate the terminus of the road on the water"—and then they say "From all the facts and information obtained, the undersigned are of opinion that the Charleston depot should be located on the present, or adjacent squares." etc. We must therefore, of course, yield the point—though it is possible that we, who know very little of the local and personal influences which operate on the matter, are quite as sure that we are right in our views, as those who know all about it; and therefore, as we are convinced—or yield the point because we must—*against our judgment*—we shall be very likely to return again hereafter to our old stamping ground, and renew the contest.

Having given the leading views of both the majority and minority of the committee, we shall also give, in another number, a few extracts from the president's reply to the committee, in the form of a *report* to the directors—dated 28th of May last. It is drawn up with great ability, and shows how much the company would lose by a change of men.

English Railway Reports.

The season for the semi-annual reports of the English railways has again come round, and we make a short extract from that of the London and North Western, to show the extent of the company's operations, and the demands made upon their earnings, for parish rates and taxes, duty on passengers, police expenses, in addition to the legitimate working expenses.

The gross earnings of the company for the six months ending 30th June, were £1,034,007 11 1—of which £20,930 5 5 was for transporting the *mails*.

The parish rates and taxes were.....	£28,346 3 6
Duty on passengers.....	24,380 6 2
Police charges.....	19,649 16 6
Making.....	72,376 6 2

for these three items—which is much of a piece with the usual charges for "right of way," "legal expenses," and "charges for printing." After disposing of the cost of construction, the report says:

Under the second head of expenditures is comprised a further charge for working stock, required for an extension of traffic on the Lancaster and Carlisle railway, and for working the Chester and Holyhead railway, which the directors have undertaken for a period of years. As this item may be liable to misconstruction, the following table of the charge for stock since the opening of the various lines now consolidated in the London and N. Western railway, with the progressive increase of mileage, is submitted:

	Total charge. £	Total milage worked.	Per mile. £
1840.....	602,999	233¼	2,579
1841.....	628,700	260¼	2,411
1842.....	685,916	260¼	2,630
1843.....	687,516	285¼	2,406
1844.....	708,959	285¼	2,481
1845.....	805,691	303¼	2,656
1846.....	1,135,987	502¼	2,259
1847.....	1,462,900	555	2,635
1848.....	1,674,668	633¼	2,646

It will thus be seen, that while the demands on the service, in consequence of increased accommodation, and reduced charges, are much greater than heretofore, the ratio of the moving stock to the mileage worked remains

about the same, and continues to be very much less than that of other railway companies.—The proprietors will recollect that in the last half yearly account, a sum of £30,400 was deducted from the company's profits, under the head of depreciation of stock. Further investigation into the condition and value of the stock having convinced the directors that this additional charge on the revenue to the 31st of December last, was not at that date required, and would certainly not have been made had they then been as fully aware of its actual state as they now are, have retransferred the amount to the reserved fund. The partial opening of the Chester and Holyhead has fully equalled the expectations of the promoters; and now that the journey between London and Dublin is reduced to about thirteen hours, the directors look for that increase of traffic which always follows facilities of travelling. The traffic on the Lancaster and Carlisle is steadily increasing, and there appears every reason for anticipating an improved dividend on the shares held by this company in that undertaking.

From the statement of the half years' accounts, it will be seen that the net proceeds after deducting £11,715 4 11, for replacement of locomotive engines and carriages, is, £491,272 3 4

To which must be added the balance carried forward from last year, £50,321 10, and 30,462 18 deducted in error, 80,784 3 0

572,056 11 4

The directors recommend a further allowance for the renewal of rails in the last half year 6,000 0 0

Making a disposable sum of £566,056 11 4

Of this sum, they recommend a dividend of £3 10 per ct. for the six months, amounting to £521,717 19 8, and leaving a balance of £44,338 11 8 to be carried to the next half years account The directors do not contemplate making any other call in the next half year than on the Manchester and Birmingham £10 shares C, unless the state of the money market should require it. The lamented death of Mr. R. Earle, one of the company's auditors, makes it necessary that the proprietors should, at the present meeting, appoint another in his place. The directors cannot conclude the present report without declaring their conviction, after mature consideration of the manifold difficulties with which the company, during the last eighteen months have had to struggle, and the practical effect which must result from their avowed determination, sanctioned by the proprietors, not to contract any new engagements, which may become chargeable on their existing revenue, that there is nothing in the position of the company, at the present time, to shake the confidence of proprietors in the stability of the concern or to create anxiety as to their future prospects.

The statement of the capital account shows a total of expenditure to the 30th ult. (less £22,967 11 10, repaid for Lancaster and Carlisle line,) to be £22,835,119 19 3: the total receipts of stock calls, in advance and loans, were £23,231,245 10 10; leaving a balance in hand of £396,125 11 7.

Revenue Acc't for half year ending June 30th.

RECEIPTS.

Traffic, viz: passengers	£583,279	11	10
Mails	20,930	5	5
Horses, carriages and dogs	16,859	17	4
Parcels	49,037	12	0
Merchandise, gross receipts, less £77,562 3 10, expenses of collection & delivery	291,762	14	8
Live stock	22,0?1	12	9
Coal	25,952	13	2
Total traffic	1,009,907	7	3
Interest on cash balances	7,752	10	9
Rents of land and buildings, less £3,089 19 2, for repairs, sundries and chief rents	7,652	17	5
Dividend from Lancaster & Carlisle.	8,694	15	8
	1,034,007	11	1

EXPENDITURE.

Maintenance of way and stations	41,980	12	2
Locomotive power— wages of engineers, enginemen, firemen, repairs, cost of materiats and coke	126,626	6	6
Coach traffic charges—salaries, wages, stationery, tickets and carriage repairs	86,104	3	4
Police charges	19,649	16	6
Merchandise traffic charges—salaries, wages, stationery, wagon repairs & sundries	75,092	18	8
Stores department charges	1,182	17	11
Compensation for accidents and loses	5,242	18	4
General charges, including secretary, accountants, audit and manager's department, clearing house, and other expenses not classed	15,593	5	9
Schools at Wolverton and Crewe	923	16	2
Total working charges	372,401	15	4
Parish rates and taxes	28,346	3	6
Duty on passenger traffic	24,380	6	2
Loss on North Union lease	8,395	6	1
Interest on loans charged against revenue	109,211	16	8
Balance carried down	491,272	3	4
	1,034,007	11	1

Balance brought down	491,272	3	4
Less for renewal of rails.	6,000	0	0
	485,272	3	4

From this it appears that this company divides only at the rate of 7 per cent. this year, instead of 8 per cent. as in 1847. This is not however, we infer, so much from an actual decrease of business, as from the extension of their lines into regions where the business is not fully developed, *or* is in the hands of those who have heretofore managed it. Railroads cannot *at once* obtain all the existing business of a line, nor develope, in a year, all the resources of a region; but they will accomplish astonishing results when well managed, and therefore we have no fear in relation to the success of this great company, if they do not attempt to control *too much territory.*

Iron Trade in the United States.

It is a, not uncommon, saying that if you would get the news of your neighborhood, you must go from home. And it is somewhat so with us in relation to the following account of a new process of making iron in the United States, which was published in the Birmingham, English, Journal, from its American correspondent. We have heard of this process, but have never been in possession of a full and accurate description, and therefore have never alluded to it in the Journal—but shall endeavor to become better acquainted with it.

The Iron Trade in America.—The following table exhibits the exports of iron from Gt. Britain to the United States for the two last years; it will be perceived that they have increased very much, particularly in the finer descriptions of iron. The shipments from Wales direct have been much in advance of any former years.

Export of Iron from Liverpool in 1846–7, to New York, Boston and Philadelphia.

	Rails. Tons.	Bars. Tons.	Hoops & sheets.
To New York in 1846	6440	7026	901
" 1847	6642	20546	4855
Increase	202	13520	3954
To Boston, in 1846	6030	4114	623
" 1847	5843	13583	1670
Increase		9469	1047
To Philadelphia, in 1846	44	1667	162
" 1847	150	3414	670
Increase	106	1747	508

The extensive iron mines in Alabama are beginning to attract the attention of capitalists in that State. W. W. Wood, Esq., a gentleman who has been enquiring into the different processes of iron manufacture in the north, advises his friends in Alabama to proceed immediately with the erection of works. Speaking of iron making in these regions, he says:

"By a new process, I saw in operation, an iron, of the very best quality, is made directly from the ore, at the rate of 1 ton of 2240 lb. per 24 hours, at a cost of $16 per ton, and a consumption of from 170 to 200 bushels of charcoal—the cost of which is included in the expense of producing the 1 ton. Expense of working a single forge, $10 per day, and the machinery requisite for a single forge would be sufficient to keep six forges in operation—consisting of one direct action steam hammer, one steam engine, and blast cylinders; and if requisite to make other iron, tilted bars or blooms, then a train of small rolls will be required. One bloomer can attend six forges, as well as one; therefore, to work a single forge would be attended with no economy."

I do not know what is the "new process" to which he alludes, but think it probable that it is in use in your own districts, whence it has been introduced here. Mr. Wood gives it as the opinion of the oldest iron masters, who went to witness the new invention in operation, that it is destined to effect a complete revolution in iron making; by it, they say, the best quality of wrought iron is made directly from the ore, much cheaper than the pig iron, from which the wrought iron is subsequently made, when carried on to any extent, at a loss of 20 per cent in the weight of the pig. The cost of converting the cast pigs into wrought bars is $20 per ton. In his report, Mr. Wood further says:

"A furnace, or furnaces, may be worked advantageously 255 days in the year, excluding Sundays, and allowing 45 days for repairs, contingencies, etc., say four furnaces in operation to produce 3 tons of iron per day,

which would allow for each furnace per day 1680 lbs. of iron, being 560 lbs. less than what is estimated can be turned out per furnace. Iron produced, 3 tons × 255 working days, 765 tons—worth in Boston or N. York $60 per ton (765 × 60,) $45,900

Professor Banard informs me it will cost $80 40 per ton to deliver the iron on wharf at Tuscaloosa, from the ore beds, or 3 8 cents per lb.—first transportation,	$6,426
Transportation from Tuscaloosa to Mobile of 765 tons at $3 per ton,	3,295
From Mobile to the north, $3 per ton,	2,295
To deliver 765 tons from the works in Alabama, in N. York or Boston,	1,106
Cost of making 765 tons of iron, say $20 per ton,	15,300
Entire cost of transportation to a northern market, including the cost of making it, which is an excess of $4 per ton, at $20,	26,316
Leaving a net profit of,	$19,584

In this calculation, he has reckoned the value of the iron at the lowest figure, $60.—The best, the Low Moor iron of Scotland, used for manufacturing locomotives, costs 120 dollars in Boston; the next best, the hammer iron, made from ore at Salesburgh, Ct., costs 100 dollars; and he does not fear that the quality of the Alabama ore would ensure their iron a price equal to the last.

Soft and Hard Soap.

The editor of the London Mining Journal uses both kinds of "soap," in his remarks upon this country—and they may be equally just.

"It would be no very easy task to lay one's hand on two countries of such unbounded opulency in mineral treasures, and yet have contributed so little to the world's stock of that particular description of wealth, as the United States in the new Continent, and Spain in the old. We excuse our brethren by genalogy, on the western side of the Atlantic, for not having done more in this particular direction—they have had plenty of work of another kind to occupy their attention. It is something to have founded a prosperous commonwealth in the wilderness—to have raised with their own hands, and by their own exertions, a fabric of liberty and commerce equal to anything the world has seen in her ancient, her middle, or her modern ages. As to Spain below the Pyrenees, the kingdoms of Castile and Leon, she has done next to nothing, compared with what she might have done, from shere supineness and inattention. In respect to *mines* and *minerals*, her wealth is to this day unprobed—her resources are unassayed; and until civil dissentions are exchanged for civil concord, and the intrigues of cabinets have given place to the arts of commerce—until, in fact, internal peace and the authority of law have received a more perfect organization—neither her mines, nor her vineyards, nor any other of her pregnant elements of prosperity will yield to Spain a half of her wealth, or bestow on her people a half of therir teeming national advantages. But we do regard Spain in Europe, and some of the states of the American Union, as among the most promising areas in the world for the production of mining wealth, and the progrees of mining activity—of course we speak of the U. States, as they have been known to Europe for about the last century, and without reference to their recent raid in Mexico. They are alike therefore, in some of the elements of their material condition; but in the features, political and moral, of the two communities, there is the greatest possible dissimilarity. The press of Madrid bestows a just eulogy on the honor, the industry, and the general success of the British government and people; but the press of our Ameriaan descendants is redolent of the choicest terms of contumely, as applied to this nation. It seems always most happy when most calumniating those from whom the people of the states trace their natural origin, and to whom they are indebted for the free spirit of their institutions. Ingratitude is a vice which all the world over, and in every age, has been charged against republics; and the ingratitude of our children of the new continent, confirms the truth of the imputation."

Diamond into Coke--the Conversion of.

In the course of last year, says the editor of the Mining Journal, Mr. Jacquelain succeeded in converting diamond into a substance possessing the appearance, physical character, and electrical properities of coke by the following process;—Having attached a piece of hard gas retort carbon to the positive wire of Bunsen's battery of 100 elements, he placed on it a small piece of diamond. He then armed the negative wire with a cone of the same carbon, and, by dexterous manipulation, enveloped the diamond with electric flame. After a short interval, the diamond underwent a sort of ebullition, became disintegrated, softned, and was actually coke. (*Comptes Rendus*, June 14, 1847; *An de Chimie*, tom. xx., p. 459.) On this experiment Prof. Faraday made the following observation, in a paper on the subject at the Royal Society:—

1. *As to the property possessed by certain substances to assume totally different forms without undergoing any chemical change.*—Prof. Faraday adverted to the case of sulphur, which becomes brittle when suddenly cooled from its first state of fusion, but is soft and pliable when similarly cooled from its second state of fusion.

2. *As to the source of heat employed.*—Prof. Faraday dwelt on the beauty and power of the voltaic arc as a furnace. Showing by experiment that diamond could be burned into carbonic acid gas by means of a current of oxygen gas directed on it when highly heated, the professor stated that neither this heat nor any short of that of the voltaic battery, except that of the solar lens, was sufficient to convert diamond into coke. The fusion of rock crystal by a current of oxygen sent through an ether fame was noticed; and it was shown that this powerfull heat was inferior in intensity to that of the battery.

3. *The condition of the diamond when thus converted into coke.*—It becomes absolutely lighter. The specific gravity of ordinary diamond is 3.368; when changed into coke its specific gravity is 2 679. It loses its insulating power. Prof. Faraday here alluded to some experiments by M. Karsten (*Archives des Sciences*, 1847), proving that certain compound bodies where conductors or not according their preperation. He stated that this was the only case analogous to carbon.

4. *As to the philosophy of the change of the diamond's structure.*—Referting to M. Gassiot's demonstration that the heat is greatest at the posotive pole of the battery, Prof Faraday suggested the possibility that the particles of diamond might, under the influence of the intense heat, tend to form vapour having a sensible and assisting expansive force, and that in there axial position as regarded the enveloping discharge they might assume a state having relation to a dia-magnetic condition. He requested to be understood, however, as offering this idea merely as a philosophical conjecture. Finally, he referred to Craham's supposition, that the difierence between diamond and coke might depend on their known difierence of specific heat.

Artificial, or Indurated Stone.

A process has been discovered, according to the following extract from the London Mining Journal of July 22d, by which a soft and useless stone becomes hard and valuable. This seems *almost* too much to believe, but we have learned to think *twice* before we express doubts in relation to almost anything; we therefore will not doubt these statements, yet will not promise to believe them without more evidence. The writer in the Journal says, in relation to "Hutchinson's Indurated Stone"—

We have much pleasure in observing, that this valuable material is quietly, but surely, forcing its way in public estimation. The principal materials at present operated upon are the beautiful freestone at Caen, in Normandy, and a worthless sandstone, which crumbles between the fingers, at Calverley Quarry, Tonbridge, Kent, but which, as we have before stated in our notices on the subject, is rendered as hard and durable as granite. The patentee, to whose long preserving efforts must be ascribed the perfection to which the processes are brought, still in the most handsome manner publicly declines the merit due to the original invention. It was first discovered by a M. Charles Le Goux, of Bayeux, Normandy, and of whom Mr. Hutchison purchased the *brevet d invention* which had been taken out for France. and has since taken cut patents for this and other countries. We think the merits of the substance produced are now pretty generally becoming known to the public; and as time continues to give additional proofs of its economy, and the perfect indistructibility of the materials—and as, probably, still further improvements may be made in colouring, during the indurating process, rendering it more applicable than at present to the finer works of art—it is likely to become one of the most valuable discoveries of this extraordinarily inventive age. As we have so often fully discribed the processes, and their effects it would be superfinous for us, on this

occasion, to repeat them; to show, however, that our favourable opinions are fully borne out by others, we give the following from the *Sussex Express*.

Having heard much of Mr. Hutchison's method of indurating stone, we were induced to visit his works at Jack Wood's Spring, on Thursday last. We had been prepared to expect to find that the stone, which had been subject to the process of induration, had been completely metamorphosed; but we must confess we were not prepared to see the soft stone at Jack Wood's, which, in its natural state, crumbles to powder with the slightest pressure between the thumb and finger, rendered as hard as granite or marble. Several pieces that were shown us were close imitations of various kinds of the most beautifully grained and black marble; and, as by this process it is rendered absolutely imperishable from atmospheric action, and capable of receiving the highest polish, we can, without the slightest hesitation, accord to Mr. Hutchison the merit of making one of the most extraordinary discoveries of the present age. The purposes to which this patent can be applied are innumerable. The softest stone, chalk, wood, paper &c.. can be rendered as hard as metal, so that the most useless rubbish can be turned to the most valuable purposes, and, to crown all, the cost much lower than any other that has hitherto been introduced for purposes to which it can be applied. Of couse, in the space of a newspaper paragraph, it would be impossible to enumerate a tithe of the benefits this discovery is likely to confer on society; but, from the information we gathered while inspecting the works. we consider it highly deserving the attention of engineers, architects, sculptors, builders, and even to surveyors of highways. By an advertisement, which appears in another part of this journal: we perceive that Mr. Hutcinson is open to grant licenses to indurate for districts, or entire countries.

From 'The Plough, the Loom and the Anvil,' for September, 1848, vol. I., No 3.

The Iron Trade of the Union, and its Influence upon the Interests of the Farmer and Planter.

Continued from page 595.

So entirely a gain is the labor applied to the fashioning of the raw materials yielded by the earth, that we feel perfectly safe in asserting that were all the coal and iron mines, the furnaces and rolling-mills, the cotton and woollen factories, the paper mills and the printing offices, closed, and the whole labor therein employed turned to the production of food, the quantity of food produced would in a short time be less than it is now, for the reason that the labor which is now employed in producing tons of potatoes and turnips, hay, and milk, and veal, and strawberries, and cabbages, would be then turned to the production of commodities of which the earth yields by bushels, and which therefore bear to be exported. If we wish evidence of this, we may find it in the fact that New England, dense as is her population, can yet export hay, while South Carolina, sparsely peopled as she is, and with millions of acres fitted to yield the finest hay, imports it from the north. When that State shall obtain consumers on the ground for her rice and her cotton, she too may export hay, because she will then have railroads upon which it may be carried.

Were the whole labor-power of the Union turned to the production of food, and cotton, and tobacco, and hemp, the product of agriculture would be less than it is now, and for the simple reason that the process of exhaustion would be more rapid. For evidence of this, we need look no further than Virginia or South Carolina; but if further evidence be required, it may be found in the impoverished state of every country that has made no market on the land for the products of the land. If this be so, it must be evident that every increase in the number of consumers tends to increase the product of agriculture to an extent exceeding the demands of those consumers, and that the gain to the community is more than the whole amount of their consumption.

Whenever the consumers of Poland, employed in fashioning the products of the earth, shall become as numerous as are now those of England, or New England, the great machine will yield by tons instead of bushels, and the producers will grow rich; and whenever the consumers of New England, or of the United States at large, shall become as few as are now those of Poland, the earth will yield by bushels instead of tons, and the producers will become as poor as those of Poland, and may then enter fairly into competetion with them for the supply of the English markets.

It will be asked: if all this vast gain—and vast it is—results from thus applying labor to the work of conversion, bringing the consumer to the side of the producer, why is it that protection is required for enabling the latter to induce the former to take his place by his side? The reason is to be found in the unceasing changes resulting from the unsound and unnatural state of things existing in other parts of the world. For the last thirty years the average price of merchant bar iron in England is stated to have been £8, 9*s*. 3*d*., or about $41 per ton. Within that time it has been up to £13, and down to £4, 15*s*., thus fluctuating between $62 40 and $23 80. In 1843, only four years since, the latter was the price. Last year, it was £8, 10*s*., or $40 80. Now, it is about £6, or $28 80.

What now, we would ask the farmer or planter to inquire, is the consequence of this? Let him look around and he will find the answer. He will see that almost as surely as a furnace or a rolling-mill is built, its owner is ruined by charges over which he has, and can have, no control. Judging from the past, all that such a man can hope for is that he may have a year or two of high prices, to enable him to provide against succeeding years of low ones, when he would otherwise be ruined. He is buying a lottery ticket, and he must trust to fortune to determine whether it shall be a blank or a prize. Last year, furnaces and rolling-mills where built everywhere, and the manufacture of iron made such progress as to warrant the belief that a very short time would place it beyond the reach of danger. Now, many of the parties are ruined, and all are in danger of being so. Their tickets have come out blanks. At the *average* price of England, with a very moderate protection, they could live, and soon they would cease to need protection. At the low prices of England they cannot live.

These changes are natural. It required no more time to mine and smelt the ore, and to roll the iron, in 1825 or 1846, than it did in 1843, and the quantity obtained in return to a given quantity of labor was as great in the one case as in the other. The return to the labor of the farmer is liable to great variation from the character of the seasons, and he may have twenty bushels in one year, while obtaining but ten in the next, but such is not the case with the labor applied to the conversion of ore and coal into iron, or cotton and wool into cloth. In those cases, what can be done on any one day can be done on any other, and that for years in succession, with, of course, gradual increase from the improvement of machinery. The cost, in labor, of food, and of the materials of clothing, and of other raw marerials, is thus liable to changes, but the cost of iron, of cloths and of manufactured commodities generally, tends to remain stationary, except so far as they are subject to change from the greater or less supplies of the raw material in good or bad seasons, and yet the price of iron is as variable as that of food. It goes up to 10 or 12, and down to 4 or 5, and it does this simply because in Europe nothing is permitted to take its natural course. At one time laws for making roads are refused, and iron is cheap. At another, laws are granted by hundreds, and iron is dear. At a third, it is found that speculation has caused roads to be made too fast, and iron is again cheap. From hour to hour the system changes. and universal ruin is the result. The furnace master here has his market destroyed, and if he would not himself be ruined, he must discharge his hands, who are forced to go and join the farmer in raising more wheat, instead of consuming potatoes or cabbages.

Such results are due in a great degree to the fact that the farmer and planter pay *indirectly* for the vast quantities of iron that they consume, and not directly. If the farmer obtained his axes and ploughs, and spades and harrows, and the use of railroad iron, directly from the workers in iron, in his neighborhood, paying them in labor, and in cabbages and potatoes, it would matter little to him what was the price of iron in the general market, as long as he received the same quantity of it for his day's labor, for his bushels of potatoes, his tons of hay, his gallons of milk, or his loads of lumber. He would see at once that the market for those commodities was quite as important to him as could be the market for iron to the owner of the rolling mill, or the market for axes to the maker of axes, and that the only result that could follow from his ceasing to buy from his neighbor, would be that his neighbor would cease to buy from him. Unfortunately for him,

however, the whole system of trade tends to his impoverishment, and he is obliged to look to the people of distant towns and cities to supply him with axes and spades, and to make his roads, all of which they do by aid of the large portion of his products that they retain as their charge for performing for him the work of exchange. With them, the only question is, what is the smallest quantity of money that will purchase the iron with which to make axes, spades or railroads? The money price of iron in England has fallen, and as the city capitalist has neither potatoes nor hay, nor milk, to sell, he buys his iron abroad instead of buying it at home, and the farmer is supplied with axes bought with money abroad, while his potatoes and his turnips rot on his hands at home, and is obliged to give his milk to his hogs, because his neighbor the furnace master has been ruined. He pays for his axes in wheat, of which it takes the produce of three or four acres to purchase as much as would have been paid for by a half an acre of potatoes, and he loses all the manure, and his land and himself are impoverished, and then he flies to the west to seek new lands upon which to repeat the same operation.

The farmer and planter require protection to enable them to bring the loom and the anvil to the side of the plough, and they do so only because the unnatural, and consequently unsteady, system of the trade of the world has tended to drive men to congregate in large manufacturing towns and cities, and to compel both farmer and planter to waste in the work of transportation and exchange a large portion of their time, and a very large portion of their products, and to keep them poor. That protection they will take whenever they shall come fully to understand that the towns and cities of the world are built up at their expense—that they are kept poor, by operations that make others rich—and that it is for that reason alone that they are compelled to call upon others to make their roads. With every step in the progress of concentration, by means of bringing the consumer directly to the side of the producer, the necessity for roads diminishes, and the power to make them for themselves increases, as they may readily see if they will travel through New England, or New York, or in the neighborhood of any place where the consumer and producer are fairly established in the neighborhood of each other. The whole manufacturing system of the world at the present time is one of centralization, which always enriches the few at the expense of the many. Concentration will enable the many to grow rich, and will tend to improvement and equality of condition, physical, moral, intellectual and political—but that cannot be obtained so long as the farmer shall be compelled to buy his iron at a distance, while unable to sell his potatoes and his turnips, and the labor of himself and his horses, to the furnace master at home, ruined by the sudden downfall of iron in the market of the world, produced by changes of policy over which neither he nor the farmer could have any control.

If the American press was united, and labored as hard, to promote the greatest good of the people of the country, by imparting to them *useful* information, as the several divisions of it are in traducing their opponents, and the opposing candidates for office, we might, *indeed*, become an intelligent and powerful nation; but so long as the obligations to party over-ride every other duty—and so long as men, who claim to be *honorable*, sacrifice their own opinions—their own self-respect—and the evident and vital interests of the people to their *party*, and to their *party leaders*—truths, such as those contained in this article, will not be as widely disseminated as they ought to be. Yet, as "*truth is mighty*," we have a hope that it will ultimately "prevail," among the laboring masses, and teach them that they have *little* to expect from political demagogues, and time-serving office *seekers*—except to be made "hewers of wood, and drawers of water," for their express benefit;—and therefore we would venture the remark that truth and honesty has more to expect, and less to fear, from a candidate who gives *no pledges*, except to devote himself to the best interests of the country, should he be placed in an important position—than from those who give *such* pledges as they think may promote their aim to obtain office.

It was not our intention, however, when we commenced this article, to give it a political turn—tho' the subject under consideration is one of great political importance. We only designed to call attention to "*The Plough, the Loom and the Anvil*," and to its veteran editor, J. S. Skinner, Esq, who has labored so long in behalf of the working people of this country, that he is eminently deserving of, and justly entitled to, their *confidence*, *respect* and *liberal support*.

It is published by Henry S. Getz, of this city, and may be had of the principal booksellers throughout the Union, at $3 for *one*, $5 for *two*, and $10 for *five* copies.

Ocean Steam Navigation--American Enterprise.

The following article from the New York Journal of Commerce, of 7th inst., will be read with interest. It is not only true, as the Journal of Commerce says, that "the entire enterprise of *ocean steam navigation* was but recently in British hands, and conducted by British capital," but it would have been *equally* true if it had gone further, and said that it was "*but recently*" that there was *no* "ocean steam navigation;" as we well recollect the arrival of the Sirius, with the bold but unfortunate *Roberts*, and, soon after, of the Great Western, with the equally intrepid, but *more* unfortunate *Hosken*, on the day when they first made their appearance in the American waters. It is now only about — years since they were thronged by the eagre and curious *thousands* of our citizens, desirous to examine these beautiful steam ships, the first that had ventured "so far from land," as regular traders, and constant visitors to our ports. And now "steam ships" are becoming not only the medium of our growing commerce, but also a principal means of *national* defence.—This is as it *should* be, and its progress during the past few years, together with the extension of *railroads*, and the *magnetic telegraph*, show conclusively to the enquiring and observing mind, what, under a wise, prudent and economical government, we *might* become, in a few years, as a nation. It is a simple question in proportion, viz: if in twenty years, with a population of less than *twelve* millions, we have planed, and introduced, and constructed, more than six thousand miles of railroad—discovered the *magnetic telegraph*, and erected over five thousand miles—and introduced *steam navigation* on the ocean, both as an aid to commerce, and as a means of national defence: what may we not accomplish in the way of improvement, with their aid in addition to the new impetus which they have imparted to the energies of the American people? It is, indeed, difficult to fix boundaries to our progress, or even to imagine a limit to our improvements.

We give the article alluded to entire, and are much obliged to the writer for the opportunity. It is as follows:

The Ship Yards.—E. K. Collins's Mammoth Steam Ships.—The entire enterprise of Ocean steam navigation was but recently in British hands, and conducted by British capital. "Great" was not only written on almost every steamer, but impressed upon every mind; so that, after all that had been said of American skill in naval architecture and seamanship, we seemed about to yield the palm to England without a struggle. But there were a few men among us, possessing the requisite energy and capital, who were ready to make investments in such property. Altho' in a degree unsuccessful at the outset, as experiments are apt to be, the attempt was none the less honorable to them, and now, as the result of persevering effort, the Americans possess, or will soon possess, as fine a fleet of sea going steamers as the world has ever seen. The elegance and convenience of their interior arrangements, the experience and skill of their commanders, and the success of their recent voyages, have determined, or must soon determine the question of equality, if not of superiority in their favor. An honorable, and in every sense beneficial competition has thus been created, to which commerce and science are alike indebted. Would such vessels as the Europa, Niagara, and other English steamers recently built, now be afloat, had not the Ocean steam navigation and other companies in the United States been organised?

In addition to transatlantic navigation, other enterprises are on foot which contemplate the extension of our steam navy to the far south, and the waters of the Pacific. All this has not been accomplished, however, on purely individual resources. In one or two instances the general government has given its aid and encouragement.

The gigantic enterprise in which E. K. Collins is at present engaged, is the most extensive of any of the same character yet undertaken by a single individual in the United States—one in which upwards of $2,500,000 are involved. Mr. C. contemplates the construction of five steamers, of immense size, to ply between this city and Liverpool, and carry the U. S. Mail. Without exception, they will be the largest frame steam vessels ever built. Two of them are now far advanced; one in the yard of Wm. H. Brown, and the other in that of Jacob Bell, and will probably both be launched in November next. Their extreme length is 285 feet, breadth of beam 40 feet, depth of hold 31 feet. They will measure 3000 tons, or about the same as the Great Britain (iron). It is intended that they shall be completed in season to make their first trip in the early part of the fall of 1849. In model, they are unlike any steam

vessel heretofore built, having more floor and sharper ends. They are also without a cut water, and carry no bowsprit. Their frames are all sided, 12 to 14 inches, and floors 21 inches, moulded, filled in solid to the floor heads, and coaged with locust throughout.

One of the most striking features is the style of the fastenings. Fifty tons of iron are worked up into bars for the frame fastenings of each. These are five inches wide and one thick, placed at intervals of four feet obliquely, from stem to stern, and crossing each other diagonally, the intersecting points being rivetted together. The longest of these is 35 feet. This method has not before been introduced in the United States. The ceiling is of pine, 8 inches thick, with the exception of five streeks at the turn of the bilge, which are one foot square and bolted edgewise.—The outside planks are of yellow pine to the main deck, except one streak next to the keel which is of white oak, 15 inches wide and 10 thick, bolted edgewise through the keel with one inch copper. The side planking is also bolted edgewise. Several streaks of wales are 9½ inches thick, and jogged into the timbers 1½ inches. All the fastenings are of copper and locust.

The engine for one of the ships now building, is to be made at the Novelty, and for the Allaire works, and will each cost about $250,000. The cylinders will be 95 inches in diameter, and have a stroke of 9 feet. The cost of these boats will exceed $500,000 each. Five steamers of similar dimensions to the above, will ultimately complete the line, one being a reserve boat. The keels of the third and fourth will be laid upon the launching of the two now in the stocks.

Howard's New Orleans Line.—In Wm. H. Brown's yard, is another fine steamer of 1600 tons, intended to run between N. York and New Orleans, in connection with the Crescent City. She is 228 feet keel, 40 feet beam, and 24 in the hold, and is to be ready to take her place in the line on the 1st of March next. The engines are building at Secor's & Co. Together, they will form a line, which, for efficiency and despatch, will be unequalled. The Crescent City is at present laid up, for the purpose of having her guards raised, the better to fit her for sailing in heavy sea.

The Savannah Line.—An excellent little steamer, called the Pawnee, of about 1200 tons, is constructing in W. H. Webb's yard, for Samuel L. Mitchell's New York and Savannah line, and will be launched this fall. She is 210 feet on deck, 35 feet beam, and 22 deep. The Cherokee is on the same route.

Geo. Law's New York and New Orleans Line.—The second vessel of the line of mail steamers between this city and New Orleans, via Havre, now under contract by G Law, Esq., was launched from the yard of Messrs. Smith & Dixon, yesterday afternoon. Engines building at Secor's.

The Branch to Chagres, from Havana, under the same contractor, will be composed of two small class steamers, the keels of which will probably be laid before long.

Panama and San Francisco Line.—The three vessels composing this line, viz: the Panama, Oregon and California, are now receiving their machinery, etc., and fitting out for their destination. The latter vessel, the pioneer of the line, leaves for the Pacific on the 2d of next month, and the others follow her successively at intervals of one month each. As most are aware, these connect with the vessels last named at the Isthmus of Darien, forming a continuous mail line from this port to the ports of California, and from them to the mouth of the Columbia.

When the whole shall be in operation, say by 1st January next, a passage can be effected from New York to Astoria within thirty days; and if the contemplated line from San Francisco to the Sandwich islands shall be put in operation, it is estimated that a passage from that point to the islands may be made in about eight days.

Some idea of the extent of this department of naval architecture, may be gathered from the following list of steam vessels that have been recently, or are soon to be built in this city.

Charleston packets,	Southerner,	1000
	Northener,	1100
	Washington,	1750
Southampton and Bremen,	Hermann,	1805
	Franklin,	2200
Howland & Aspinwall's Pacific line,	California,	1100
	Oregon,	1200
	Panama,	1100
New York and Savannah,	Cherokee,	1250
	Pawnee,	1200
Howard's N. York and N. Orleans,	Crescent City,	1500
	Empire City,	1600
Havre,	United States,	2000
Law's New Orleans and Chagres branch,	Ohio,	1500
	(mate,)	2706
	Two, unknown.	
Collin's New York and Liverpool line,	not named,	3000
	"	3000
	"	3000
	"	3000

Here we have 22 steamships, whose aggregate tonnage is about 40,000 tons, and in which is, or is to be, invested a capital exceeding nine millions of dollars.

Gold Mines in Canada.

We were not aware that gold mines had been found to any considerable extent in Canada, but the following report of Mr. Cunningham, which we take from the American Mining Journal, shows that valuable mines have been examined by him in the vicinity of Quebec. The editor of that excellent Journal says:

We have received the report of John Cunningham, Esq., on the mineralogical character of the Seigniory of Rigaud Vaudreuil, in the district of Quebec, L C.

Mr. Cunningham, we believe, was for some years a resident in one of the southern States, and had an opportunity of examining the gold region to which he refers. In comparing the gold deposits in the Carolinas and Virginia, with those of the Seigniory of Rigaud Vaudreuil, he says:

"I can safely assert that the deposit on your Seigniory will bear comparison with many of the richest districts of the south. I have examined many of them and ascertained carefully the results of the washings, and although our operations were conducted upon a very limited scale, being as it were simply an essay, I have no doubt when the mine is regularly opened and a system adopted, that the average proceeds of a year's labor, will fully equal those of the Carolinas or Virginia.

"The gold found is remarkably large and easily collected, and there will consequently be no loss by the process of washing.

"The extent of the deposit is the next important consideration, the limits of which are not yet determined; if the gold exists in the gravel of the country, it will be found where the characteristic formations extend, but if it has originated from some local cause, having an immediate bearing upon the rocks in the vicinity of the stream, the deposit will probably be confined to the country, embraced within the drainage of its tributaries.

"I have found it in variable quantities in the valley of the stream commencing at its outlet, and ascending two miles; and though our principal operations were confined to a very small section, I feel confident the same successful results will obtain wherever the deposit is tried in that distance."

In speaking of further excavations made, and in recommending the manner of working and the number of hands to be employed, Mr. Cunningham says:

"I am, however, much gratified in being able to state, that even above this section, very favorable indications were developed in the bed of the stream, and I entertain no doubt, that a further exploration will bear me out, when I say, that it also is rich in auriferous materieals.

"This assertion is made from facts elicited from actual observation, for wherever I have searched in the exposed portions of the stream I found not only indications, but gold of large size, and in considerable quantities, far exceeding any similar experiment which I had seen tried in many of the *richest mines* of the southern States.

"Having had a machine constructed, which is used in all the gold mines of the south, called a 'Burke rocker,' which is a very simple and cheap contrivance, and used with great success in washing for gold, by amalgamation with quicksilver, in order that I might prove the value of the deposit, by a simple calculation, I found the following to result from the gravel and slates washed.

"I would however in the first place state, that with ten men the amount of gravel washed by such a machine, averages from 3 to 350 bushels per day.

"The first gravel tried was from the surface, and about 15 feet above the level of the waters, it yielded 20 pennyweights of gold to 300 bushels of gravel, the last trial was made from the gravel above the slates, with the debris of the slates themselves, this yielded 18 pennyweights, 18 grains of gold from 60 bushels.

"In the deposit mines of the southern states one pennyweight of gold to each hand employed per day, is considered good work, and the mine yielding such results a rich one.—

Their calculation is, if 100 men are employed, they will have five of those machines in operation, these at an average of 300 bushels per day, will give a return of 1 3-35 grains per bushel, or one pennyweight to the hand.

"The average of the washings from our experiments, as given, amounts to 2 7-12 gr. per bushel, being very nearly 100 per cent. more than the mines I have instanced above.

"When you take into consideration the very unfavorable circumstances under which I operated without one experienced hand and almost totally obtructed by water, by which means the material washed could not be taken from where the most favorable indications appeared, you cannot but feel satisfied with the complete success of the exploration.

"It must be borne in mind that the first discoveries made before mine were confined to a small space in the bed of the creek, not more than 40 or 50 ft. square, the gold found amounted to 300 pennyweights, the principal part of which was found in the open crevices of the slates. This yield is unprecedented.

"It has been observed in the opening of the southern mines, that where pieces of 30, 40 or 50 pennyweights have been found, that invariably pieces of much larger weight have followed, you succeeded in finding pieces of the above weights, and there is every reason to suppose the same rule will hold good here as well as elsewhere.

"The largest pieces of gold found by me, were embedded in the crevices of the slates, and very possibly will be so discovered to a great depth as those crevices extend, the breaking up of those slates will therefore be necessary, and to do so, the bed of the creek and the entire valley must be completely freed from water.

"The working season being very short, no time should be lost in collecting the materials for building the dam, and the necessary houses for the men, and offices, provisions also, and tools, etc., ought to be provided, and on the spot, before the opening of the navigation, for at least two months' use, in order that a day may not be lost when the time for working arrives. The amount of these preparations must of course depend upon the number of hands employed.

"The foregoing would be the principal outlay for working this portion of the deposit. and as near as I can estimate it, including machinery, labor, tools, etc., would amount to about £2,000 currency, ($8,000).

"It is generally the conceived opinion, that gold mines are ruinous to the proprietors, and detrimental to all other industrial pursuits, which might be necessary for the furtherance of the prospects of the country within which they are situated. This, I think, experience has proved to be fallacious, much depends upon the method of working the mines, and the necessary prudence in regulating the monetary department of the business, less capital being required in opening them, and the metallurgic process is more simple than that required in the separation or reduction of any other metal.

"A few years ago, the country within which the Russian mines are situated, was a barren waste, now there are cities and villages and a large population, all resulting from the astonishing developments which have arisen there. The same might be said of the southern States, a great portion of the mining region there, was unfitted for any agricultural purpose, but the mines have brought population, settlements have been formed, the aspect of the country has become changed, and everything looks prosperous.

"During the year 1846, $1,139,357 worth of gold was coined at the mint and branches of the United States from the mines of that region—comment on this would be superfluous—and I therefore state without hesitation, that the develpments resulting from this exploration, will perfectly justify you in making even a much greater outlay than I have named, should it be required."

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.

August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.

New York, Sept. 9, 1848. 6w*

TO CONTRACTORS.

SEALED proposals will be received at the office of the Lafayette and Indianapolis Railroad Co. in Lafayette, until the 11th day of October next, for the Grading, Masonry and Bridging of that part of said road lying between the summit south of Durkee's Run, near Lafayette, and Lebanon, in Boone county, about 34 miles. Also, for the wooden superstructure for the same, in a distinct bid.

Plans and specifications will be exhibited by the engineer. By order of the Board.

ALBERT S. WHITE, Pres't.

Lafayette, Aug. 17, 1848. 6t35

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES,

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ELIJAH PACKARD,
ISAAC MILLS, } SPRINGFIELD, MASS.

1y48

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

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FROM 1 1-2 TO 8 INCHES DIAMETER.

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1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged to be far superior to steel. They are very much lighter—their power is more easily regulated—they are more elastic, and yet possess great strength, and they always retain their elasticity, and are not affected by extremes of cold or heat. The very easy motion which a Car possesses when fitted with these springs is at once perceptable. They are equally applicable to Engines and Tenders.

Railroad and other companies are requested to notice that the Patent for these springs was granted to *W. C. Fuller* by the United States Government, and that any parties vending or using such springs, without his license, infringe upon his Patent, and will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,
78 Broad St., New York.

July 15, 1848.

TO RAILROAD CONTRACTORS. NASHVILLE AND CHATTANOOGA Railroad. On the 1st of August next Proposals will be received at the Railroad Office in Nashville, for the Graduation and Masonry of Forty Miles of the Nashville and Chattanooga Railroad, comprising a large am't of rock excavation, and *One Tunnel of Seven Hundred Yards in Length.*

CHARLES F. M. GARNETT,
5t27 Chief Engineer.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by
A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles,* and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen,* or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Plaining, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales,* of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

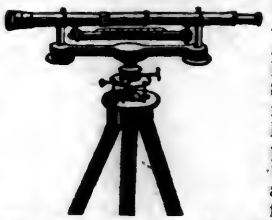
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

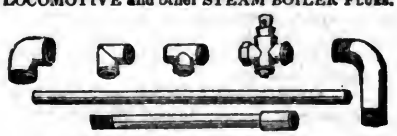
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee
G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



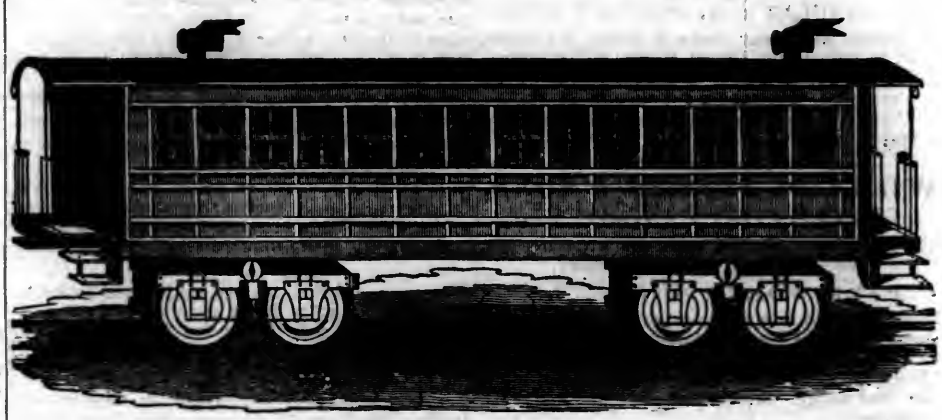
Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
ty10 17 Burling Slip, New York

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arrester have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

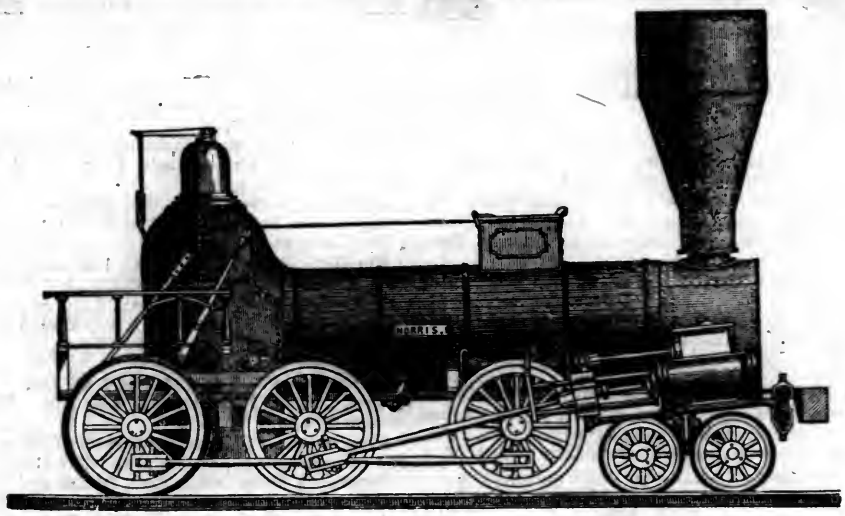
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

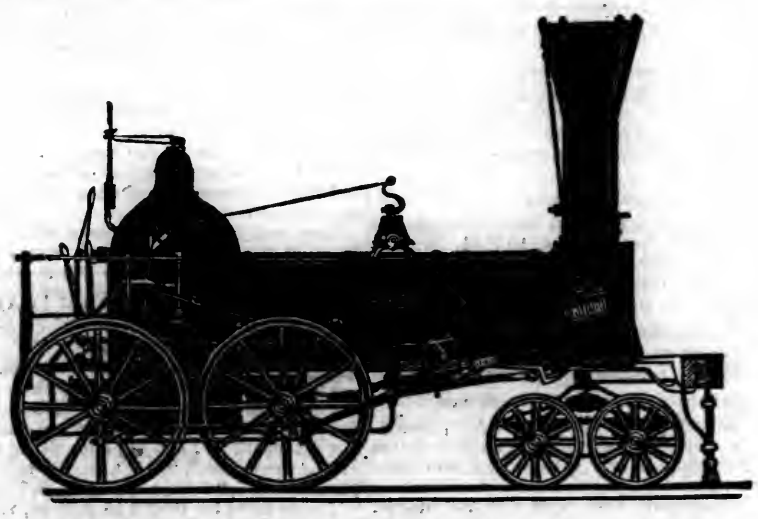
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25,1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without is said. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Bratleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons..... $5 00 per hhd.
On molasses and oil..... $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, JR.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—




Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m.—Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.




Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6 50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6 10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAIL-

road. Summer Arrangement. On and after Monday, April 3, 1848, the Trains will run as follows:




Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pitsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12 Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAIL-Road. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAIL-ROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WEST-ern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....	0 20 pr. t00 lbs.	35
Crockery, per cubic foot.....	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....	1 25	1 50
Ploughs, (small,) and Wheelbarrows.....	0 80	1 05
Salt, per Liverpool Sack.....	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Soydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

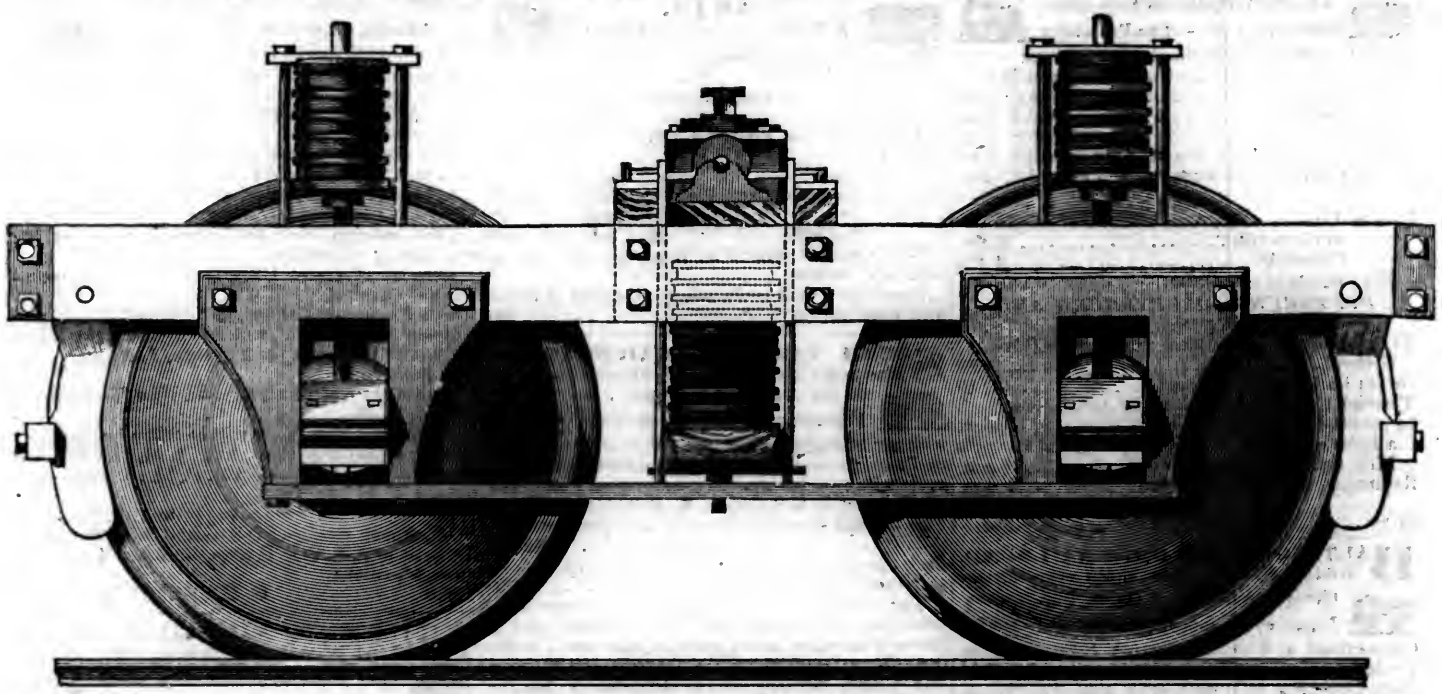
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Ruhber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with
F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. & W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 40.] SATURDAY, SEPTEMBER 30, 1848. [WHOLE No. 651, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, September 30, 1848.

☞REMOVAL.

The Office of this Journal is removed from the *Franklin House*, to No. 48 SOUTH THIRD STREET, *third door north* of the *Girard Bank*.

⁂ A *special request* is hereby made, to those to whom Circulars have been recently addressed, that they will respond promptly to them, as an important question—to *us* at least—is to be decided in accordance with the response given to the request made in those circulars.

Richmond and Danville Railroad.

The Danville Register, of 15th instant, says that "the regular monthly meeting of the board of directors of this company was held in Danville on Wednesday and Thursday of this week. We are happy to learn that the members are in the highest spirits in regard to the prospects of the road and that they are determined to prosecute the work to this place with the utmost vigor and celerity, consistent with the interest of the company. As an evidence of the determined spirit with which they have embarked in the enterprise, we may cite the singular fact—singular, because it is without a parallel in the history of railroad building in the United States—that in less than a twelve month from the organization of the company, they have actually put 100 miles of the road under contract. And we are pleased to learn further that, by a resolution adopted yesterday they have determined to put another 20 miles under contract this side of Staunton river, so soon as the route to this place can be located, (the engineers are now busily engaged in making further surveys:)—and that, as soon as the remainder of the stock shall be taken, amounting now only to the trifling sum of $100,000 which almost any one county ought to take, the whole line will be placed under contract. This, our readers will admit is 'going ahead with a perfect rush;' and for such promptitude and energetic action, we take the libery to tender to the board of directors the thanks of the whole community."

Railroad between Watertown and Rome.

The Watertown, (N. Y.) Journal, says that the survey of the route of this road, just completed, reduces the distance nearly five miles. The estimated expense of construction is also reduced about two hundred and forty thousand dollars. We are gratified to learn that this work is to be pushed forward vigorously.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.

September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS FOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

Mad River and Lake Erie Railroad.

This important work, says the Ohio State Journal, "is now finished from lake Erie to its junction with the Little Miami railroad, at Springfield, a distance of 134 miles—being by far the most extensive work in the State of Ohio, which has been prosecuted to a successful conclusion by the enterprise of individuals; it has, as yet, yielded no income to the stockholders—the resources of the company having been to this time, appropriated to the construction of the road. From the experience of the past however, as well as from the present appearances, there is every reason to believe that the enterprise of the projectors will be richly rewarded by rapid, abundant

and permanent income, and a large and increasing profit on their investments in future.

"The capital stock of the company is four millions of dollars; the cost of construction will not fall far short of two millions. The company has 16 locomotive engines, 15 of which are now in constant use upon the road, and there is a demand for more services than they are able to perform. The receipts of the road during the months that are past will not vary much from $30,000; and when it is recollected that in a day or two the line of railroad transportation will be complete from Cincinnati to lake Erie by this route, thus furnishing the cheapest and most expeditious as well as the safest and most comfortable road between the east and the west, it cannot be unsafe to predict a very considerable increase both of business and profit."

The editor of the State Journal may well predict a rapid increase of business on this road. It opens an easy, rapid, and reliable communication between the lakes and the Ohio river at Cincinnati, and it will be sure to attract much of the travel which has heretofore ascended the river to Wheeling and Pittsburg: and it will increase the way travel along its line, by which those who have invested their money and waited years for its completion, without return, will now reap their reward, as it must become a good paying stock.

South Carolina Railroad.

Reply of the president to the committee of investigation.

We concluded, in our last number, a long article on the condition, and disagreements amongst the stockholders of these roads—and promised to give in another number, some extracts from the reply of the president, Col Gadsden, to the report of the investigation committee.

On the 30th of May last the stockholders met, according to adjournment, to "act upon the reports of the committee of investigation." After the meeting was organised, Col. Gadsden read an able reply, and defence of the management, showing that it had been the effort of the directors and officers to perform their whole duty. When we commenced reading it we took pencil in hand to designate those paragraphs which might be omitted; but on reading it through, we found it so connected, and so much to the point, that we concluded to publish it entire, long as it is, for the reason that it gives the result of *experience* and *thorough investigation*, which may be useful to companies who have yet everything to learn. It will be found *well* worth the space it occupies, and the time it requires to read it. We should like to give the appendix attached to the president's report, as it gives details of the present condition of the working stock of the company, but cannot well devote more space to this subject now.

It appears that the recommendations of the majority report of the committee, were mainly laid on the table, or indefinitely postponed, which is the best possible evidence that the great body of the stockholders appreciate the services of the directors, and their able and efficient officers, as they ought, and that the business of the company has been as well managed, as it could well be, under all the circumstances.

It is evident that this effort, on the part of the opposition, has strengthened the board and the president in their position, and its effects will doubtless be to give new life and energy to their labors, by which good will result to the public, and, of course, in turn, to the stockholders.

We may hereafter give the report of S. M. Fox, Esq., in relation to the inclined plane: and we shall at some future time refer again to the question of removing the depot to the water. The following is Col. Gadsden's report:

Report of the President to the Board of Directors of the South Carolina Railroad Co.—Charleston, S.C. May 28, 1848.

GENTLEMEN: After the renewed trust reposed in you as a board of directors, at the last annual meeting, and the confidence you have on all occasions manifested towards me as the executive officer of your body, you could not have been more gratified than myself, at the investigation instituted by the stockholders into the affairs of the corporation.—It would be presumption to suppose that the condition of the road could be found free from imperfections, or the administration of the affairs of the company entirely faultless; but your president did not anticipate anything like the sweeping condemnation contained in the report of the majority of the investigating committee. He deems it due to the *company*, to the *directors* and to *himself*, to submit for consideration, some facts and objections, from which perhaps it may appear, that the conclusions of the majority of the committee, however deliberately adopted, are not altogether just.

The subjects of complaint most prominently put forward by the report are, want of skill and care in the inspection of timber, so as to secure proper size, strength and durability; want of uniformity and system in the repairs and reconstruction of the road; want of attention to the proper means of ensuring a sufficient quantity of water at all *times* for the use of engines, by providing wells of the necessary depth and capacity; and it is distinctly stated that the force provided for the repair of this road, and keeping it in the best working condition is abundantly sufficient; but that it has not been judiciously and efficiently applied. It is to be regretted that the report does not assign the reasons for the opinion that the force is sufficient, if properly applied, to keep the road in better condition than it is—and that it does not point out the particular department in which the want of judgment and efficiency, in its application was not apparent.

The timber contracted for, undergoes a rigid inspection by the principal or assistant superintendent of the road. It is required to conform to the terms of the contract, and not to show on dimensions of 8 by 10 inches, more than ¼ inch sap on any edge. There is often a conflict between the contractors and inspectors in this matter, and the last year, of 10,000 cross ties delivered, 4000 were rejected—and it is very possible that this discarded timber along the line of the road, may have misled some of the members of the committee.

The size of the timber, both for *longitudinal rails and cross ties*, corresponds on the South Carolina railroad, with that used for similar purposes on all other railroads. In some of our plans of construction, they greatly exceed in dimensions, what engineers on other works most approve.

"*Want of uniformity*" in the superstructure, is not only admitted by the president, but is acknowledged to be by design. There is no subject on which the practical managers of railroads differ so much as on the plan of superstructure. The timber in a track must vary in form and in size, according to the strength of the *iron rail* used: and all variations in the modes of construction, as seen on other roads, and sometimes, as in this instance, on the same road, are but experiments or expedients to counteract the *universally acknowledged defects of a light bar, whether of the flat or flange form.* Opinions accord in approving only of the cross tie road for a heavy T or bridge rail; but with a rail of lighter weight, and like the flange on the S. Carolina road, not exceeding 25 lbs. to the yard, it requires vigilance and nice observation to decide as to the form of wooden superstructure most to be approved; such an iron rail, imparting no strength in itself, and furnishing little more than the hard and smooth surface for the driving wheel of a locomotive to act on. The different plans, therefore, which are now under test, to obviate, if possible, the defects of the Hamburg and other roads constructed at the *same early period;* and the "*want of uniformity*" complained of, may ultimately prove the only means of coming to safe results, as to the most *proper superstructure for a light iron rail.*

The plan to be most preferred, must have in view not merely the labor and cost of original construction, but the facilities for reconstruction. That which imparts strength sufficient to resist the trying action, under the different speed of the locomotive and trains, and *simplest in the plan*, so as to involve the least cost *in construction and reparation*, is the superstructure most to be desired. To attain these objects, experience is the only safe guide. One of the plans now under the test, and which, from the *unusual quantity and weight* of timber applied, seems to have escaped the condemnation of the majority committee, is found objectionable, and for the very cause which they seem most to approve. It is defective in the small strip under the rail, which is subject to premature decay. It requires the application of a larger force in the construction as well as in the reparation. It involves a heavier first cost in the material, and a corresponding additional charge in the reparation.

Another structure, however, and which has been exposed to the animadversion of the committee, on account of the imagined insufficiency in the size and strength of the timbers, has been found thus far free from the above objections. It is simpler and cheaper of construction; the string pieces are flared narrower at top, so as to bring the iron nearer to its centre of gravity; but are *wider at the base*, and of greater depth, (which constitute its principal strength) than similar pieces of timber on any other road. This plan was first experimented on twelve years ago, on a short section of road, from which, as yet, no cross tie has been renewed, and the replacing of stringers is all that has been found necessary.

A similar plan of superstructure has been recommended by the experienced engineer of the Charlotte railroad; and for a light iron

rail, involving the necessity of a wooden stringer, will be found most to be preferred.

There is no subject on which speculation has been found so much to fail, as on the *preservation* and *durability* of timber. You may observe all the instructions as to seasons of felling; you may be particular as to the different exposures supposed to be adverse or favorable to preservation; and yet exceptions will be found in conflict with what theory or practice had seemingly sanctioned. In this latitude, the average durability of pine timber in the superstructure of a railroad, has been estimated at five years; or the calculation is, that pine timber half exposed and half concealed, near the surface of the earth, will have to be renewed, on an average, every fifth year. There are instances, however, and not rare, and in the same stick of timber, so as not to be explained from any difference of quality, where decay has been more rapid in one portion than another; and cases are frequent, and without any perceptible cause, where pine timber has decayed in half the time in one exposure, that it did in another. On an old road of 136 miles in length, constructed of pine timber, close inspection may at any season discover partial deterioration; and vigilance, however unceasing, cannot be prepared at all *points* to detect unexpected, concealed and rapid decay, or to apply the "prompt and vigorous correctives," to which the committee seem to think the police on the road is fully equal.

The report states they looked into the condition of the road with as much care and minuteness as *circumstances* would allow.—Those circumstances permitted searching examinations at but three points; on the entire line of road, and where the *reconstruction* of *short sections* was *in progress*, and the *timber exposed in its bed.* But on a road with the deep fillings of the Hamburg track within a few inches of the flange of the rail: the cross ties unexposed, and full half of the stringer *buried* and *concealed*, the most penetrating eye, the closest personal inspection, and the most minute observation on every mile, could not detect that general deterioration which the report would seem to imply.

The drainage of a road is, of all objects of investigation, the least to be tested by a partial or occasional inspection. The committee have themselves complained (what they did not personally witness) of the labor necessary to remove the sand which accumulates at the foot of the plane after every heavy rain.—They certainly then may have inferred the difficulty or impossibility of keeping, on all occasions, open, the number of ditches on so long a line of road, and where, in a single night's rain, the labor of months may be lost and invisible to future inspection. A different period of examination, therefore, and at an interval of but a few days, may present very contrary aspects. The ditching devolves generally on a small *floating* gang, which is transferrable to any point of the road where the exigencies of the service may require, and which may be beyond the ability of the local gang to perform. During the last summer, and from the known incessant rains which inundated the middle and lower sections of the State, these ditching demands became very severe. The excavations of the day, became often filled up in the night, and there was more work of this kind performed last summer on the Columbia road, than at any former period. In addition to these labors, the floating gang had to aid in the construction of three new and indispensable turnouts, at Hamburg, Blakeville, and Sineath's—besides rendering assistance to repair the damages of a freshet at Edisto bridge—where the road was under water for more than a week—and erecting additional platforms.

The president is not insensible to the importance of drainage, and for some of the reasons inculcated by the committee. But as to the drainage with a view to the preservation of the timber in the track, they are as much at variance with the *experience* as some of their other speculations on durability and decay. A *uniform moist soil* is much more favorable to the preservation of timber, and entire immersion renders even the most inferior qualities indistructible.

In one of the low cuts on the Hamburg road, which after heavy rains became flooded and difficult to keep drained, the timber was found to outlast all the neighboring sections, which were kept dry or subjected to the alternating processes of all soils exposed to the changes of weather.

It is acknowledged, that there was an unexpected and threatened failure of water the last winter, in the wells on the lower sections of the road, and which had been for years previously found fully equal to a plentiful supply. Even the wells in the yards of our city were found wanting at the same season. The deficiency in the number is not complained of, there being five water stations in the space of 31 miles. They were made of the depth and capacity which past experience had sanctianed. On the apprehended deficiency, the "*obvious remedy*" was promptly applied. A new well was sunk and *pump and tank erected* at Sineath's, which likewise failed. The wells at the 31 mile station and at Ross's were enlarged and deepened, but without the desired effect, and, as a last resort, a pump and tank put up in the pond made by the embankment across a small stream at the 20th mile of road. That all the attention and assiduty, on the part of those entrusted with this duty, to remove the threatened evil, was applied, does not admit of a doubt.

The decayed timber, taken from the bed of the road, is permitted to lie at or near the spot from which it is removed, to furnish fuel to the laborers when at work on those sections, and thus prevent a trespass on the company's wood or neighbor's fences. In the spare time of the hands, it is cut up to aid in supplying the locomotives.

The number of individuals in the employ of the company appears large. There is an error, however, in stating it at 750, though that number does appear on the pay rolls for December. The police of most roads, for the maintenance of the way in good working condition has generally been estimated at one man per mile, and on an old and imperfect structure, like that of the Hamburg road, it has been found scarcely sufficient. The published reports of roads rarely furnish the number of persons employed in the various departments, though by reference to some of the New York roads, we perceive that on a road of 73 miles in extent, the average number of persons in the company's employ was 452. On another of 78 miles, 230; and on a third of 46 miles, 69 agents and laborers were reported.

The rolls in the workshops and transportation departments do not exhibit a uniform or fixed number. They vary as the business of the road fluctuates, and the last season the construction of new cars, and other additional work connected with an increase of locomotive power, necessarily swelled the number of operatives and laborers beyond the usual demand of the company.

The president, however, accords with the committee, that the number may seem large, and that with more appropriate accommodations at the Charleston depot, and better arranged workshops, a very large reduction may possibly be made in this department of expenditure.

Congaree Trestle.—The original construction of this work, with which this administration had no agency, was defective, in substituting pine for cypress piles. The approaching decay, however, threatened from this circumstance, induced early measures to be taken the last season to contract for cypress piles to take the place of pine in the new structure, and which measure, it is gratifying to perceive, both in relation to quality of material and execution of plan, has met with the commendation of both sections of the committee. The work has not been postponed beyond the necessity recommending it, though its commencement bears date at the unfortunate period when the company has found need for all its available funds.

Camden Branch.—The Camden branch, as an unfinished road in the progress of completion, and constructed with all the lights which experience has shed on the most approved mode of construction, your president had hoped would have escaped reproof. The committee, however, condemn the dispensing with the longitudinal and subsill, "*hitherto considered indispensable.*" We have adverted to the difference of opinions prevailing among engineers on the superstructure of railroads. The longitudinal timbers were hitherto adopted to give the strength which a light iron rail could not impart. The more modern improvements go to substitute the strength of iron for wood, in a heavy rail secured by spikes to a cross tie. The longitudinal sub sill, so far from being the usual plan, and the Camden road the first to abandon it, was first experimented on in the Stonington, and subsequently in the Columbia road. Here it has proved defective, and not answering the object intended, being a very expensive mode of construction, it was not adopted on the Camden road. The sub sill is not indispensable, nor has it been found to give the support the committee suppose. It is sunk below the bed of the road in a trench, and the cross

ties laid on it, touching only on the ends, and deriving most of their support in the centre from the graduations of the road. This sub sill in the cuts has been found to affect the *drainage*. The water on the road bed settles in the trenches made to receive it, and the action of the engine imparts, in wet weather, a churning motion to the sill, converting into mush all beneath it. The foundation then fails, and, instead of the sill supporting the cross ties, it shrinks from it, and as the tie is supported by the centre of the road bed it cannot follow the sill in its sinkings, but remains suspended at its ends.

To be Continued.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 16th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Sept. 19.	9,652 11.	174,419 01
By Room Run ....."	5,075 18.	88,051 05
By Hazleton.....	2,332 00.	66,739 00
By Beaver Meadow.....	2,249 16.	59,074 02
By Buck Mountain.....	2,760 18.	52,312 08
By Spring Mountain.....	1,853 01.	48,416 01
By Cranberry Mines.....	2,120 00.	10,000 00
White Haven.....	350 01..	7,405 15
Diamond Co.....	537 13..	1,213 17
Total.....	26,921 18.	507,631 09

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 21st inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven.....	9,628 10
" Pottsville	5,191 17
" Port Carbon.....	6,733 15
" Port Clinton.....	3,262 12
Total this week.....	24,816 14
Total this year.....	923,550 15

The amount of coal brought to market by the Schuylkill canal during the week ending the 21st inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon.....	8,945 14
" Schuylkill Haven.....	3,396 08
" Port Clinton.....	549 04
Total this week.....	12,891 06
Total this year.....	311,459 01

Recapitulation.—Total Shipments this Season.

By Lehigh companies.....	507,631 09
By Reading railroad.....	923,550 15
By Schuylkill canal.....	311,459 01
Total	1,742,641 05

From the Civil Engineer and Architects' Journal.

On Chemical and Electrical Forces.

BY PROFESSOR FARADAY.

Professor Faraday has this season delivered a course of seven lectures at the Royal Institution, "*On the Allied Phenomena of the Chemical and Electrical Eorces.*" The last lecture of the course was given on Saturday, the 17th ult., and we now subjoin a brief sketch of the whole, showing the mode in which the subject was treated, and describing the principal experiments by which it was illustrated.

The *first lecture* was devoted entirely to explanations of the character and illustrations of the nature of chemical force, commencing with its simplest forms. In the first place, Professor Faraday explaned the difference between mechanical force, or the force of gravitation, which produces molecular action and aggregation and aggregation of masses, and the action of chemical force, which takes place among the particles of matter. At the same time as he entertains the opinion that all forces are closely allied, if not identical, he showed several experiments in which chemical action is effected by mechanical force of which the explosion of fulminating powder by percussion afforded an example. The illustrations of chemical action in its feeblest form, he showed to be closely allied to me chanical force, as the aggregation of the particles of water, he said, depends on the same force as the most energetic chemical action; the difference between them being only in degree. As an illustation that chemical action takes place during the mixing of fluids, he pours some spirits of wine gently on the top of water in a glass vessel, into which a long tube was inserted. The vessel and the tube being quite filled, he inverted the apparatus, to mix the spirits of wine with the water, when contraction in the volume of fluid was manifest by the tube being no longer full. Among other exemplifications of chemical action, were the solidification of two gases, muriatic acid gas and ammoniacal gas, on being mixed, and the conversion of two limpid liquids, carbonate of potass and muriate of lime, into a white solid mass. The results of chemical action, Prof. Faraday observed, are the production of compounds distinct from, and frequently quite dissimilar to, the original substances that enter into combi nation. To show in a striking manner the difference between a mixture and a compound he mixed together some copper and iron filings, and seperated the iron from the copper by means of a magnet; whereas in a chemical compound no mechanical force can seperate the combined particle, and they can only be resolved into their original elements by the chemical action of some more energetic agent. Though the original substances that enter into chemical combination seem to be entirely lost in the resulting compound, yet there is no destruction nor any alteration in the elements, nor is there any creation or destruction of power produced by the combination. Professor Faraday illustrated the reproduction of the elementary substance of a compound after it had been apparently destroyed, in the followiug manner, He put some iodine into a glass flask, which, on being heated, emitted the purple or violet colored fumes peculiar to that substance. He then added zinc and water to the iodine, when a combination took place in which the properties of the iodine were apparently lost, and by no application of heat could the violet fumes be produced. On the addition of sulphuric acid, however, the iodine was set free from its combination with the zinc, and its fumes where again perceptible. That there is no destruction or change in the particles of matter produced by chemical action is generally admitted, but the Professer observed, that some philesphers still cling to the notion that there is a creation of power, as exhibited in electricity; but this opinion, he maintained, is not found on fact, for there can be no creation of power without the creation of matter.

In the *second lecture* the consideration of the different actions of chemical force was resumed in the commencement, and then its gradual transition into electrical force was developed. In the first place, the Professor pointed out the difference that exists between the force of gravitation and chemical force in the relative constancy of their actions; for whilst gravitation never ceases to act at any moment, chemical affinity, on the contrary, often lies dormant for ages, until circumstances arise that bring it into action. Several experiments were performed to illustrate this, and also to show that the results of chemical action may be reversed by varying the temperature and the other condtions under which it takes place. A mixture of nitrous and oxygen gases, for example, produces no change on litmus or turmeric paper, but when a stream of those mixed gases issues into the atmosphere at the ordinary temperature, a piece of moistenad litmus paper exposed to the current is reddened, thus proving the presence of an acid. When the same stream of mixed gases is heated, the previously reddened litmus paper is restored to its original blue colour, and tumeric paper is turned brown, showing that the directly opposite property has been given to the gases, which then become alkaline instead of acid. When approaching to those chemical actions which are accompanied by the development of electricity, Professor Faraday first exhibited the solution of copper by an acid, and its reproduction in a metallic form on pieces of iron and zinc, which metals having a greater uttraction for the acid that held the copper in solution than the copper itself, entered into combination with the acid and liberated the copper. He afterwards exhibited the action of oxygen and zinc, by first pouring some diluted sulphuric acid on a piece of that metal, which decomposed the water by attracting its oxygen, with which it entered into combination and liberated the hydrogen as gas. On introducing a few shillings into the glass, the vigour of the actions increased, and the decomposing power of the zinc seemed to be transferred to the silver, from which metal copious streams of hydrogen gas arose. A more obvious exhibition of the extension and transfer of chemical action from one metal to another was effected by the deposition of copper on silver from solusion of the sulphate of copper. When a piece of silver is immersed alone in a sulution of sulphate of copper, no action whatever takes place, and it might so remain for any length of time without sensibly decomposing the solution; but as soon as a piece of zinc or iron is brought in contract with the silver in the solution, the copper is deposited on the silver as readily as on the zinc; and when the latter is amalgamated with quicksilver, the effects of decomposition are transferred entirely to the silver, and none of the copper is deposited on the amalgamated zinc. This effect is equally produced, whether the two metals are brought into contact in the solution, or whether connection between them is made by a wire through

which the action is readily transmitted. A new class of phenomena is brought into play by this exhibition of chemical force in dissimilar metals. When the wire that connects the two pieces of metal is made to pass over a suspended magnetic needle, the needle is deflected on one side, and by expanding the surfaces of the metals sufficient power is obtained to make a wire red hot. The deflection of the needle at any part of the connecting wire where it may be placed, shows that the action occurs along the whole course of the wire, and exemplifies one of the positions which the professor wished to establish, viz: that the distant and local actions are identical. This new class of phenomena. Prof. Faraday said, was, in his opinion attributable merely to another exhibition of chemical force, but he should, in deference to received usage, denominate it electrical force.

(To be continued.)

Ewbank's Hydraulics.

New York, Greely & McElrath.

The author and publishers of this valuable work have done the community important service in the production of this work.

We have frequently read extracts from it in our exchanges, but have never met with the work until recently, when on a visit to N. York—and we were not aware, until we looked through the eight numbers, comprising nearly 80 pages each, or about 600 pages in all, how little we actually knew in relation to the details of the subjects upon which it treats.

It treats first, historically, upon the subject of raising water; of the various plans, devices, and machines used for that purpose. The author says:

"It was a favorite subject of research with eminent mathematicians and engineers of old; and the labors of their successors in modern days, have been rewarded with the most valuable machine which the arts ever presented to man—the STEAM ENGINE—for it was 'raising of water' that exercised the ingenuity of DECAUS and WORCESTER, MORELAND and PAPIN, SAVARY and NEWCOMEN; and those illustrious men, whose successive labors developed and matured that 'semi-omnipotent engine,' which 'driveth up water by fire.' A machine that has already greatly changed and immeasureably improved the state of civil society; and one which, in conjunction with the printing press, is destined to renovate both the political and moral world. The subject is therefore intimately connected with the present advanced state of the arts; and the amazing progress made in them during the last two centuries, may be attributed in some degree to its cultivation."

He also says, "Whenever we attempt to penetrate that obscurity which conceals from our view, the works of the ancients, we are led to regret, that some of their *mechanics* did not undertake, for the sake of posterity and their own fame, to write a history and description of their machines and manufactures.

"We know that philosophers, generally, would not condescend to perform such a task or stoop to acquire the requisite information, for they deemed it discreditable to apply their energies and learning to the elucidation of such subjects. (Few could boast with Hippius—who was master of the liberal and *mechanical* arts—the ring on his finger, the tunic, cloak and shoes which he wore, were the work of his own hands.) Plato inveighed with great indignation against Archytas and Eudoxus, for having debased and corrupted the excellency of geometry, by mechanical solutions, causing her to descend, as he said, from the incorporial and intellectual to sensible things; and obliging her to make use of matter, which requires manual labor, and is the object of servile trades."

So it seems that pursuits "which required manual labor," were no more in vogue with philosophers of old, than with the *fashionables* of the present day. The history of antiquity, the author thinks, was poluted with the accounts of wars and warriors, while the more useful matters were omitted, and lost, mainly, to mankind.

He asks, "Of what ultility to us at this day, is either Nimrod, Cyrus, or Alexander, or their successors, who have astonished mankind from time to time? With all their magnificence and vast designs, they are returned into nothing with regard to us. They are dispersed like vapors, and have vanished like phantoms. But the inventors of the arts and sciences labored for all ages, We still enjoy the fruits of their application and industry—they have procured for us, *all the conveniencies of life*—they have converted all nature to our uses. Yet, all our admiration turns generally on the side of those heroes in blood, while we scarce take any natice of what we owe to the *inventors of the arts*."

Our author is, however, neither a philosopher of old, nor a "fashionable of modern days," as he says,

"If we judge correctly of human character, we should admit that the mechanic who made the chair in which Xerxes sat, when he reviewed his mighty host, or witnessed the sea fight at Salamis, was a more useful member of society than that great king; and that the artisans who constructed the drink-vessels of Mardonius, and the brass mangers in which his horses were fed, were really more worthy of posthumous fame, than that general, or the monarch he served: and, if it be more virtuous, more praiseworthy, to alleviate human sufferings than to cause or increase them; then that old mechanician, who, when Marcus Sergius lost his hand in the Punic war, furnished him with a *iron* one, was an incomparably better man than that or any other mere warrior; and so was he, who, according to Herodotus, constructed an artificial foot for Hegisostratus."

He says also that "A description of the *foundries* and *forges* of India and of Egypt; of Babylon and Byzantium; of Sidon, and Carthage and Tyre; would have imparted to us a more accurate and extensive knowledge of the ancients, of their manners and customs, their intelligence and progress in science, than all the works of their historians extant; and would have been of infinitely greater service to mankind.

"Had a narrative been preserved, of all the circumstances which led to the invention and early application of the *lever*, the *screw*, and the *wedge*, *pulley*, *wheel* and *axle*, etc.; and of those which contributed to the discovery and working of the metals, the use and management of fire, agriculture, spinning of thread, matting of felt, weaving of cloth, etc., it would have been the most perfect history of our species—the most valuable of earthly legacies. Though such a work might have been deemed of trifling import by philosophers of old, with what intense interest would it have been perused by scientific men in modern times! and what pure light its examination would have imparted to every inquisitive and intelligent mind!

These extracts serve to show us the views of the writer, and to ensure to his readers—who *ought* to be *hundreds of thousands*—a really useful book.

We should like right well to give some of his descriptions of the ancient modes of elevating water, but we cannot make them intelligible without the illustrations, which we have not got. In chapter 4th he says:

"At what period of mans' history he first had recourse to wells, we have no account; nor of the circumstances which led him to *penetrate the earth* in search of water. Wells we have no doubt are of antediluvian origin, and the knowledge of them, like that of the primitive arts, has been preserved by uninterrupted use from the period of their first discovery. At first, they were probably nothing more than shallow cavities dug in moist places—and their depth occasionally increased, in order to contain the *surface* water that might drain into them within certain intervals of time; a mode of obtaining it still practised among barbarous people."

He thinks that "mans' ingenuity was probably first exercised in procuring water;" and it appears that they became skilled in the art of constructing them, as he says that,

"In no other part of the world, even in modern times, has more science been evinced, or mechanical skill displayed in penetrating the earth, than is exhibited in some of the ancient wells of the east; and it is to their authors, that *we* are indebted for the only known method of sinking wells of great depth, thro' loose soils and quicksands, viz: by first constructing a curb, of stone, brick, etc., which settles as the excavation is deepened, and thereby resists the pressure of the surrounding soil."

The discovery of wells in good condition in the buried cities of *Herculanæum* and *Pompeii* show their antiquity, and the state of perfection attained in their construction before the Christian era.—Speaking of cisterns, he says:

"Having mentioned the rain water cisterns of the Romans, it may be observed, that they were as common in Pompeii as they are in this city, every house having been furnished with one.

"As Pliny's account of these cisterns may be useful to some mechanics, especially masons, we shall make no apology for inserting it. 'The walls were lined with strong cement, formed of five parts of sharp sand, and two of quicklime mixed with flints; the bottom being paved with the same, and well beaten with an iron rammer.' B. xxxvi, 23 Holland's trans. The composition of this cement differs from that which Dr. Shaw says has been used in modern times in the east; and which he thinks is the same as that of the ancients. He says the cisterns which

were built by *Sultan ben Eglib*, in several parts of the kingdom of Tunis, are equal in solidity with the famous ones at Carthage, continuing to this day, unless where they have been designedly broken, as firm and compact as if they were just finished. The composition is made in this manner: they take two parts of wood ashes, three of lime, and one of fine sand, which after being well sifted and mixed together, they beat for three days and nights incessantly with wooden mallets, sprinkling them alternately and at proper times, with a little oil and water, till they become of a due consistance. This composition is chiefly used in their arches, cistern and terraces. But the pipes of their aqueducts are joined by beating tow and lime together, with oil only, without any mixture of water. Both these compositions quickly assume the hardness of stone, and suffer no water to pervade them. Trav. 286."

It is amusing to trace the improvements adopted for drawing water. The following extract is almost incredible—but the comment of the author is *admirable*.

"A very pleasing instance of female dexterity in carrying water, is recorded by Herodotus, v, 12. As Darius, king of Persia, was sitting publicly in one of the streets of Sardis, he observed a young woman of great elegance and beauty, bearing a vessel on her head, leading a horse by a bridle fastened round her arm, and at the same time spinning some thread. Darius viewed her, as she passed, with attentive curiosity, observing that her employments were not those of a Persian, Lydian, nor indeed of any Asiatic female:—prompted by what he had seen, he sent some of his attendants to observe what she did with the horse. They accordingly followed her; when she came to the river, she gave her horse some water, and then filled her pitcher; having done this, she returned by the way she came, with the pitcher of water on her head, the horse fastened by a bridle to her arm, and as before, employed in spinning.

"Industrious labor is an ornament to every young woman; indeed neither the symmetry of her person, nor the vigor of her mind can be perfectly developed without it. The fine forms and glowing health of the women of old, were chiefly owing to their temperate modes of living, their industrious habits, and the exercise they took in the open air."

Who can estimate the benefits which would result to community if this were *fashionable* doctrine?

From the drawing of water in an earthen vessel, by a string in the hands of the fair damsels of antiquity, to the rope and pulley with *one*, and then with *two* buckets, and then with animal power, by pulley and rope, and then by the windlass, with its various modifications, is exceedingly interesting and instructing.

We could fill pages of the Journal with interesting extracts from this work, if we had the cuts to illustrate them, but as it is we cannot give the most interesting portions of it—and we therefore commend the work itself to all who are interested in such matters. It is probably to be had at the principal booksellers, at 25 cents a number, or $2 for the 8 numbers, making over 600 pages. We shall be very likely to refer again to a work of so much interest.

Wire Rope for Standing Rigging to Ships of War.

We find the following favorable notice of wire rope for standing rigging, in the Mining Journal for 8th July—and give it a place in the Journal, that it may meet the eye of those who direct such matters at Washington.

The "Penelope," Government Steam-Frigate.—This frigate, carrying 42 guns, was, some six years since, converted into a steamer with 600-horse power, having 72 ft. put into her midships—her former masts and yards standing. Application having been made to the Admiralty, and a plan submited to the Lords commissioners at the time, to fit her with patent wire-rope as standing rigging, it was submitted, that each of the lower shrouds should be shackled on singly to collars passing round the mast head, so that, in case of an action, should any one or other of the shrouds of the vessel be carried away by shot, having duplicate shrouds, that which was damaged could be instantly unshackled and taken down—the duplicate shroud supplying its place, without being compelled, as heretofore, to lift the other shrouds over the mast-head, which operation is, indeed, impossible to affect at sea. In accordance with the suggestions so made, the *Penelope* was fitted; and it is highly satisfactory to find, from a report made to the admiralty, that the contemplated advantages have been fully realised.

The *Penelope* is now in her second commission as a flag-ship on the coast of Africa, six years having elapsed since her present wire-rope rigging was first fitted; and, from the representations made by the authorities, of the advantages attendant, and the convenience the commodore had experienced, in consequence of his flag-ship being so fitted, it is expected that such principal will be generaly adopted; and we are creditably informed, that the Lords Commisioners of the admiralty contemplate having the whole of the ships of the navy fitted in like manner; and her Majesty's frigate, *Reynard*, requiring to be rigged, is now being fitted at Woolwich, by Mr. Andrew Smith, C. E. (the patentee of the wire-rope), which is now being extensively employed for mining and railway purposes, the same principal, in the present case, being applied as that to the *Penelope*.

Iron Trade in the United States.

The following notice of this branch of business is taken from the London Mining Journal, of 12th August. It says:

The [American] correspondent of the *Birmingham Journal*, in his letter of last week, says—"The financial year of the government closed on the 30th June; but, judging from the usual dilatoriness of the treasury department, in issuing their returns, the details of our trade will not soon see the light. The opponents of free trade urge that, in consequence of English iron forced upon our markets, encouraged by a low tariff, the iron-masters no longer keep their mills running night and day, as they did last year, and the markets of the west, which have hitherto been the chief customers of the Pennsylvania iron-masters, are in a great measure lost to them. 'Under the old law (they say), English hoop iron did not as now find its way to the western and richest iron section of Pennsylvania, to be used as hoops to wooden buckets, at a saving of 25 per cent; nor did the small bar iron find its way to the lake countries in such an amount as to make a similar quality of the home made article unsaleable.'—Some attention has also been drawn to the fact that some of our railroad companies have lately contracted for English iron at very low rates. The Erie railroad company, for instance, have made a contract for their rails at £6 per ton, delivered in New York. which has been called forth some petulant remarks from our ironmasters, who contend, with seeming justice that we ought to be able to make the iron for our own railroads, as we have abundance of the raw material, and no lack of the ability to manufacture. The company, however, have doubtless been able to buy cheaper abroad than they could do at home, and during the current year some millions of dollars will be sent abroad for this article. The exports from this port for the first six months of 1848 where $22,377,881, of which over $7,000,000 where in specie—this leaves a balance of trade against us in New York alone of over $24,000,000, at the same time that we have been drained of so much specie. Under all the circumstances of the case, I think your merchantile readers will agree that it will be their true policy to consign lightly, as it is ours to import with caution, as the state of affairs in Europe may instigate many parties who must sell, to seek a market here at any sacrifice."

Electric Telegraphs, Improvements in

As the telegraph has become an important and rapidly growing interest, and as there is a legal investigation now being made, as to rights of using other than Morse's patent, we give the following specification, describing the improvements in working, by the Messrs. Highton, of England. It will be interesting to many of our readers, we feel quite sure. We find it in the London Mining Journal of August 12th.

[Specification of patent granted to Henry Highton, of Rugby, M. A., and Edward Highton, of Regents Park, Middlesex, C. E., for improvements in electric telegraphs. Patent dated January 25. 1848.]

This invention is described as consisting of fifteen parts, and the description is arranged under that number of heads. The following gives the substance of it, but the enrolled specification must be looked to for the exact details of this important invention:

The first part consists in producing a power for moving pointers, and for other purposes by means of horse shoe magnets, surrounded by multiplying coils of wires, and suspended on an axis. Several methods of using them are described, with the axis between the legs of the magnet, and at right angles to the plane in which the legs lie, so that the magnet shall oscillate in that plane; and, again, with the axis running through the middle of the magnet, and in the same plane as that of the legs of the magnet, so that they shall oscillate at right angles to that plane. There are described also several methods of com-

bining two or more horse shoe magnets together, and surrounding them with multiplying coils so as to unite their effects. By the employment of horse shoe magnets, thus arranged, all the effects capable of being produced by magnetic needles can be obtained.

The second part of the invention consists of a system of finger keys, for the purpose of producing the greatest possible number of variations in the manner of transmitting electrical currents along telegraphic wires, each single key forming one of those variations. The number of variations capable of being formed is described as represented by the number three, raised to the power of the number of line wires, minus one. Thus, the variations on three wires are 26—the exact number of the letters of the alphabet; so that by a set of the finger keys, marked with the letters of the alphabet, and combined with instruments afterwards described, a person has nothing to do but to set down before one of these instruments, and touch in succession the keys as required, at some distant station, the letters and words are either instantaneously printed, or exhibited to the eye. With four wires, and their corresponding keys, 80 different symbols may be exhibited, etc.

The third part of the invention consists of an instrument, for the purpose of completing the circuit of secondary batteries, which, as it requires to be often mentioned in the after part of the specification, the inventors call by the name of "perœnode," from two Greek words, signifying the completion of a circuit. The peculiarity of the instrument consists in its capability of completing, at a distant station, of either of two different circuits, without the possibility of any accidental confusion by the oscillation of the magnets used.

The fourth part consists in a method of arranging screens one behind another, so that when they are moved to the right or left, by the electrial power, they instantaneously show the required letter, or symbol, out of the whole number capable of being exhibited by the variations of the method of transmitting the currents along the number of wires used. They are used in combination with the keys before described—so that each key causes the screens so to move as to show at once the letter, or symbol, corresponding to the key. Thus, with three wires, and the corresponding system of keys, any one of the 26 letters of the alphabet may be instantly exhibited; and, as fast as a person puts his fingers to the keys, the corresponding letters are read off at a distant station. With four wires the number of symbol is increased to 80, as before.

The fifth part of the invention is a peculiar kind of escapement, adapted to producing the motion of paper, &c., for the purpose of telegraphic printing. The movement produced is an unequal step by step movement, of such a kind, that at the first step the paper may move so very small a distance, as to be virtually almost in a state of rest, while the type hammer strikes down upon it, and in this way a clear impression of the type is produced; whilst the second step, which takes place during the return of the type hammer, moves the paper the distance which is usually preserved between letters in printing. This invention enables any of the escapements known as locking escapements, to be used in telegraphic printing; and this, at the same time, also is secured a clear impression of the letters, and a perfect uniformity of distance between them.

The sixth part consist in a contrivance for producing greater rapidity in the use of a revolving disc, with a step by step motion, either for the exhibiting, or printing, of letters, or other symbols, and for remedying the great defect in such plans, as formerly used, which is, that one slip, or error, makes all the subsequent letters wrong, till the discs at the different stations are set right again by hand, so as to correspond with each other. This contrivance enables the disc, by the reversing of the electric current, to be thrown forward in its revolution, at one bound, to zero, or its starting point. Thus supposing that the word to be exhibited, or printed, begins with the letters B A, the disc is moved, by a step by step movement, to the letter B, which is shown, or printed; the current is then reversed, the step by step movement is thrown out of gear, and the disc completes its revolution to zero, by one bound, ready to be moved forword again by the step-by-step movement to the letter A; and whenever disc thus completes a revolution, which would be on an average, after every two letters, all the discs at the several stations would necessarly, by the movement itself, be set so as to correspond, and, consequently, one slip, or error, in any of the instruments, would entail no consequent errors—a defect in the instruments heretofore constructed, which has prevented their practical use; and it is plain also, that about half the time required for transmitting a message would be saved. Under the same head is discribed also the additional apparatus necessary for the printing letters moved forward—namely: the apparatus for driving the hammer down to strike the type upon the paper, holding the type whilst the hammer strikes it, and then allowing it to complete its full revolution, so as to commence again at the starting point, all being effected by the electrical power, conveyed along one single wire, and secondary batteries connected with it.

Under the head of the seventh part, is fully described in detail the method of combining the *perœnode*, and its secondary batteries and electromagnets, with the escapements described under the fifth and sixth heads; so as to exhibit to the eye any communication by means of the alphabet, inscribed around the edge of a disc—the whole being governed by means of a single telegraphic wire, extending from a distant station.

The eighth part of the invention is the printing, or stamping, by means of the power derived from secondary batteries. Several methods are shown in which this may be accomplished with different numbers of wires, and different apparatus connected with them. The first method shown is where three line wires and three *perœnodes* are used, working six type hammers, which, by their combinations, form a perculiar symbolical alphabet—illustration of which is afforded in the specification, but prevented from appearing here from want of space. A form of instrument is next described, of a rather more complicated kind, by which a communication may be printed, not in the symbolical, but in the ordinary, type. By the variations of the currents formed by wire *perœnodes*, any one of 26 type hammers are moved, so that the keys before described are touched in succession—the corresponding letters are instantly printed at a distant station. Other additional instruments are afterwards described, by which, through the means of *perœnodes*, and a step by step motion, communications may be printed in ordinary type, using one or two wires, the use of two very much increasing the rapidity of the printing—so that an average of only two or three step by step motions need be made for printing any required letter; but we could not make any of these plans intelligible in detail, without giving all the drawings which accompany the description in the specification. A corresponding method is also shown of exhibiting letters to the eye, where it is not required to print a communication, and where similarly only two or three step by step movement are required to show any required letter, or symbol.

The ninth part of the invention consists in application of the *perœnode* to Morse's American telegraph, by which means a telegraph, formed on that system, is able to do just double the work in the same time when compared with what it can perform, when worked on the ordinary system.

The tenth part of the invention describes a method of either exhibiting or printing a communication in the ordinary letters of the alphabet, by means of a cord, band, or chain, to which it is attached a scale with letters, or type, placed upon it. By means of three *perœnodes*, the cord is so shortened as to bring any required one of the letters, or type, into a proper position to be exhibited or printed; or the type and letters are disposed round the circumferance of a wheel, and the cord, or chain, passed round the wheel—and thus the shortening cord produces an angular motion in the wheel sufficient to bring any of the letters in the same way to some determinate place, for the purpose of being exhibited or printed.

The eleventh part of the invention consists in the use of a pedal for removing from, or putting into, a telegraph circuit an alarum apparatus, or for lifting from the liquid of a battery the metals employd; so that, on the operator leaving the instrument, the alarum cannot possible be left out of the circuit, nor the metals be left in the liquid of the battery—preventing thereby excessive waste of material, now caused by having the metals always immersed in the liquid.

The twelfth part is the employment in electric telegraphs of the solutions of the salts of the ammonia, for the exciting liquid in the batteries employed. The inventors recommend this form of battery for telegraphs, in consequence of their constantly uniform strength, for great lengths of time. They state, that the ammonia evolved on the nega-

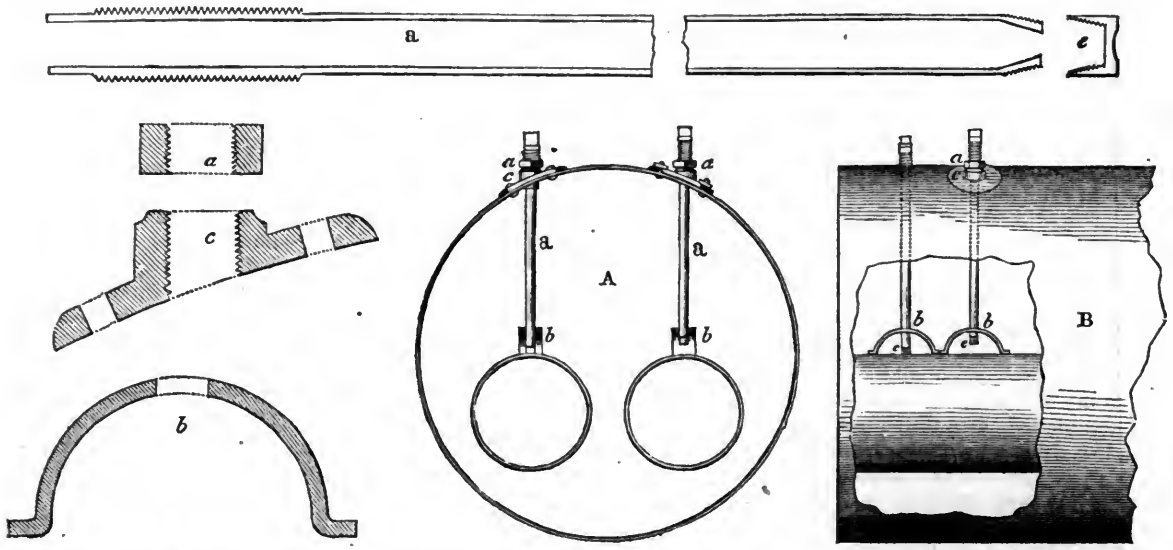
tive plates of the battery being soluble in water, does not form a coating of non-conducting substance on those plates, as is the case with hydrogen, in the batteries ordinarily used. They recommend, however, that the metals employed should be of considerable size, and be placed at considerable distance from each other.

The thirteenth part is a method of insulating suspended wires. Instead of the wires being carried outside the posts, they are carired through holes, bored either through the posts or through arms attached to them; and in the centre of these holes are placed heads with transverse slits in them, reaching from the circumference to the centre, and causing them to resemble in shape portions of spiralis. These slits enable the heads to be slipped on the wires, while it is impossible for the wires again to escape from them, without the head peing forced out from the holes, and turned round in a transverse direction to that of the wire. This arrangement prevents the necessity of any covering to the posts—the wood round the holes themselves forming a sufficient protection. Means are also shown of conducting away any water which may trickle down the posts in wet weather.

The fourteenth part is the use of metals, glazed or enamelled, in the form of roads, or tubes, or other shapes, for insulating suspended wires. It is merely an application to telegraphic purposes of the art of enamelling metals, which is now so extensively employed for many other purposes.

The fifteenth part consists in the use of a metallic tag, similar in form to the tag of a boot-lace, for the purpose of protecting wires covered with varnished silk, or cotton, &c., from the effects of friction at the points of suspension. The claims are 15 in number, and correspond with the several parts of the invention as decribed—the whole forming a new system of electrical telegraphs, in accordance with the advanced state of mechanical and electrical science, and calculated to take the place of the rough and infantile systems of telegraphing hitherto adopted.

A. STILLMAN'S PATENT SAFETY FUSE APPARATUS.



Steam Boiler Explosions, or Improved Safety Fuse.

We find in the *Eureka* for September 6th, a description, with illustrations, of a new mode of avoiding explosions of steam boilers, devised by Mr. Alfred Stillman, of the Novelty Works, New York. As we feel it a duty always to give publicity to all improvements calculated to prevent *accidents*, and injury to mankind, we give this a place in the Journal, in the hope that we may thereby aid in its introduction into general use, from which good will result, not only to those who travel, but also to the inventor and patentee, whom we have long known as an excellent mechanic and worthy man.

The expense of application is, we understand, but very small, and it should be introduced into all steam boilers, as we understand it is to be into those beautiful steamers, designed for the *Pacific*, or Panama and Oregon line—one of which, the California, is now nearly ready for her departure—having made her trial excursion on the 21st and 22d inst, with entire success and satisfaction to the builders of her machinery, Messrs. STILLMAN, ALLEN & Co., of the Novelty Works.

Improved Safety Fuse for Indicating Low water in Steam Boilers.—The following description of a very simple and ingenious invention for indicating want of water in boilers for generating steam, was lately patented by Mr. Alfred Stillman, of the Novelty Iron Works of this city. Trials made with it we understand have proved entirely satisfactory. We hope it will meet with that attention such improvements deserve. Inspection will convince any one that its cost must be entirely too small to make *that* an objection to an extensive trial.

To give our readers a clear idea of this apparatus, we have prepared cuts showing it both in detail, and as attached to a common flue boiler. (A) is the end view of the boiler with the head removed, and (B) is a side view with an opening in the shell, in each of which is shown the connections and internal arrangements. The same parts are referred to by the same letters in the several figures: (*a*) is an iron tube not exceeding an inch internal diameter, having the upper end enlarged externally: and with a screw cut upon it so that it may pass through the (*c*) which is firmly attached to the boiler, and also thro' a jam or tightening nut (*a*), this end of the tube projects beyond the screw, and is squared to receive a wrench. The orifice at the lower end is considerably contracted, so that whatever passes through it, will pass freely through the whole length. The outside of the lower end is slightly tapered, and has a fine screw cut upon it, upon which is screwed the cap (*e*) made of some fuseable metal, common soft solder is well adapted for this, when only a deficiency of water is to be indicated, and other compounds can be used when extra heat by over pressure is to be indicated. (*b*) is a string or guide attached to the flue to keep the tube from getting out of place, when screwing down upon the flue, but this may be dispensed with when the tube is not of a considerable length. Thus arranged, the tube is screwed firmly down, compressing the cap of fusible metal between the flue and the tube. A thread may then be wound over the tube at (*e*), and the nut (*a*) will make it tight.

It is evident that if the flue becomes heated from the absence of water, the cap (*e*) will melt, leaving the lower end of the tube open to allow the steam to blow through, and thus give the engineer timely notice of the dangar which must ensue if the fire is not instantly abated. This being done, the boiler can be supplied with water, the tubes stopped with a plug of wood, and the boiler and engine continue in operation as if nothing had happened. At the earliest opportunity after the steam is down, the tube may be removed from the boiler, a new cap screwed on, and the tube replaced as before. In boilers subject to long continued operation, as in sea going steamers, several of these tubes may be inserted, one of which only shall be in contact with the flue at a time.

Report of the Albany and Schenectady Rail-Road Company.

The Albany and Schenectady railroad company, in compliance with a resolution of the honorable the Assembly of the State of New York, passed the 3d day of February, 1843, submit the following report for the year 1847:

Length of road in operation, 16 miles 4,837 feet.

Cost of construction to January, 1848,		$1,473,253 11
Paid for building 17 eight wheel freight cars, 2 four wheel baggage cars, 1 20-ton locomotive engine, and our proportion 23 first class and emigrant passenger cars, etc		28,629 48
Paid for freight constructron		8,932 82
Paid for construction of engine house at Schenectady		7,198 62
Paid for construction of engine housa at Albany		3,202 10
		47,963 02
Paid for interest		26,314 42
dividends		25,000 00
repairs and operating the road.		60,310 42
Income from passengers	$110,051 67	
freight	46,591 67	
rents	1,293 96	
mail contract	1,950 00	
Total income for the year 1847		159,887 30
Received from all other sources		4,489 80
Number of through passengers		229,401
way passengers		none.
locomotives		6
passenger cars		1
freight cars		51
baggage cars		2

An undivided interest with the Utica and Schenectady, Syracuse and Utica, Auburn & Syracuse, and Auburn and Rochester railroad companies, say 17-251 in

55 Eight wheel passenger cars.
20 " emigrant cars.
14 " baggage cars.
4 " mail and baggage cars.
Number of machine shops, 1
" horses, 5

Average number of men in the employ of company, 101.

No. of miles run by passenger train, 49,674
" freight and all other trains, 22,821

Total number of miles run, 72,495

JOHN T. NORTON, Pres't.
E. FOSTER, Jr., Sec'y.

The Iron Trade & Railways of Gt. Britain.

The present progress of railways in Great Britain is greater than is generally supposed in this country. The calls have exceeded £3,000,000 a month, and were £19,913,872 during the first six months of 1848, and at the rate nearly of £40,000,000 a year, which naturally leads to the conclusion that the English iron trade will at an early day be again in a prosperous condition. We wish we could say as much for the iron business in this country—but we cannot anticipate much improvement here while the rates rule so low in England. The time will, however, come, when the mining business, and the production of metals, will be in a prosperous and profitable condition.

The following remarks may be profitably read by those interested, as they are, to a certain extent, prophetic—we therefore give them from the London Mining Journal of July 15th.

Your remarks last week upon the prospects of the iron trade appear to prove conclusively the present depression to be but a temporary one, arising from the cause suggested in that article—namely, the deferring of ironwork and rails by railway companies, in consequence of the scarcity of money. Indeed, no man who knows the enormous length of railways now in the course of construction, as well in America and on the continent as here, can for a moment doubt that a period of high prices of iron must shortly enue—such as has never yet been exhibited in the annals of the trade. Having paid some attention to railways and the iron trade, perhaps the following statement of the make of iron, the number of railways in the course of construction, and the conclusions drawn from them, may not be uninteresting to parties connected either with railways, the iron trade, or the money interest—as all of those interests are greatly concerned in the development and solution of that wonderful question of social economy—the progress and completion of the railway system. The make of iron, as given by Mr. M'Culloch, in his last edition, published in 1847, was in—

1840, 1,396,400 tons.
1843, 1,300,000 "

Since that time no returns are made up, tho' beyond question, the make at present is something over the largest of those two periods—averaging, I should say, about 1,500,000 tons per annum. From 1830 to 1840 was a period of great prosperity in the iron trade, during which the make increased in a very rapid ratio (the exact figures may be found in the above author); and from 1840 to 1842 was a period of depression, when the make fell off as above shown, though not to the extent (considering the preceding rapid rise) that might fairly have been anticipated—showing that that the increased make was not, even with no extraordinary demand, much above the wants of the country; as, tho' some stocks were accumulated, the amount, comparatively, was not large—iron being too costly an article to be accumulated in very large quantities. The impetus to the trade in 1843 and 1844 was given by the railway acts passed in those years, and continued, without much variation, until the orders for rails were discontinued, at the latter end of last year, owing to the tightness of money; the railways only being able to extract from the grudging public sums immediately required for their first wants—namely, earthwork and formation. That the orders for rails were only delayed, must be evident at once from the returns furnished by you last week; and which, as they are all important to the question, I shall set forth a little more at large.

The railways completed in 1843, by returns compiled by order of parliament in 1845, were as follows;—

	Miles.	Am't of cap'l.	Av. per mile.
Great Britain	2069¼	£64,238,630	£31,048
Belgium	343	5,872,160	17,120
France	552	10,276,000	18,617
Germany	1997¼	15,500,000	7,500
America	3688	17,702,400	4,800
Total	8650	113,589,160	13,131

And by the same returns the railways constructed abroad in 1845, were,

	Miles.	Capital.
France	2410	£44,866,970
Germany	2347¼	18,000,000
America	5624	26,995,200
Total	10381¼	89,862,170

From the above returns, Sir Robert Peel's celebrated speech on the railway system, delivered in parliament, April 23, 1846, reported in the papers the next day, and in Hansard, and by parliamentary returns issued at the latter end of the session of 1846, the following are the number of railways for which acts have been passed in this country, from 1843 to the end of the session of 1846:—

No. of railways.	Capital.	Length in m.
1844....37	£17,986,000	3543
1845...118	60,484,000	3543
1846, In shares. 144,832,405		
To be borrowed 33,411,081		
	179,243,486	5974¼
Total	257,714,486	9516¼

In addition to these, many railways are authorised and constructing abroad, in Russia, Italy, &c., and in the session 1847 a considerable of railway acts were obtained for railways and branches here, the returns for which I have not at the moment before me. It therefore, appears from these returns that there were, in 1845, 10,381½ miles of railways actually in course of construction in America and on the continent; and that there have passed since 1843, Acts in this country for no less than 9517 miles of railway, involving the enormous capital of £257,714,486 sterling, and an amount of iron (calculating that each mile of railway requires 500, aud, I believe, the real quantity required is nearer 600 tons) of no less a quantity than 4,758,500 tons.

A curious inquiry now remains as to the means we have at command to meet this extraordinary demand for gold and iron, which even now casts before the shadow of its coming magnitude; and, before touching upon this part of the subject, I cannot refrain from paying a well-deserved tribute to that most able of papers—*The Times*—which, when all others had run mad in the railway mania of 1845-46, alone stood forth alike from Parlament (the legitimate guide of the public), and the public itself, and denounced the mischief of such an inflated speculation with a withering force, which sheared it of its more dangerous proportions, and saved hundreds of thousands from the utter destitution in which the insane bubble would have inevitably involved them.

The calls during the last year, and this up to the present time, for English railways alone, have averaged more than £3,000,000 a month—the total calls for the six months of 1847 being £23,032,200; and for the first six months of this year, £19,913,872—(see the totals in the "Weekly Share List," and in *The Times*, of July 1, 1848)—consequently, the public is now expending about £40,000,000 a year in railways, and will, if this be continued, complete the lines authorised, since 1843, in about five years from the present time; and, looking upon the pressure upon the money market which has been present during the time these calls have been made,

I think, if the railways are content to proceed at that rate, that the means of the country are sufficient, in a percuniary point of view, to complete the host of railways now being constructed, without any serious pressure upon the trading interest; and, if rails were ordered, *pari passu*, with the amount expended per annum, it would, I consider, be possible for the ironmasters to supply the rails required in this gradual proportion—because, taking the average cost of railways at £30,000 per mile, £40,000,000 (the expenditure of each year) would complete 1330 miles, requiring, at 500 tons per mile, 666,500 tons of iron per annum. Now this, although a very large demand, additional to the ordinary demand, might perhaps, by great exertions on the part of the ironmasters, be supplied in due course, as the high prices, which must follow even a demand of this extent, would stimulate them to the utmost. If, however, instead of the orders for iron-work keeping pace with the rest of the outlay, they be left to the last moment, we shall then have a demand for 4,758,500 tons of iron--being the total amount required—pressing upon the market nearly at the same time. It would be utterly impossible to meet such a demand; for, if the whole of the make of the kingdom were applied to railways alone, it would take about three years to meet their requirements.

There is no remedy by an increased make; for it is impossible suddenly much to extend it, as the labor employed in mining and iron-works is skilled labor, which cannot be rapidly augmented, and the higher the wages the less iron is turned out by the same number of hands, as the men become almost masters; and, instead of working steadly as they do when wages are low, they devote two, and sometimes three, days a week to idleness and dissipation; neither is there a remedy to be looked to from abroad, as the foreign railways depend, in a considerable meaure, upon English iron for their completion, no other country being in a condition to offer them a supply of any moment.

If, therefore, there is any dependence whatever to be placed upon facts and figures, it follows, that at the rate at which the railways are even at present proceedings, the time must come when (if orders be delayed) much more iron will be required than can possibly be suppled. Whether the approach of that period be immdiate, or remote, will depend on the discretion of the railway people in ordering, or not ordering, their rails in proper time; anyway, however, as many lines must be, from time to time, completed, ready for the permanent way, it is certain the present low prices connot continue long. A state of matters of this sort soon cures itself by stimulating demand. Even already the signs of improvements are abroad; foreign orders (American and Russian) are increasing; the fear is not that things will not revive, but that they will revive too fast, and give birth to speculation. If that can be avoided, and the railways calls confined to the present dimensions, the next 10 years of the iron trade will tell a tale of prosperity, little dreamt of at the present moment.

Large Mass of Copper.

Large masses of copper are becoming quite common. The following description of one found in Cornwall, Eng., will match some of those found in the Lake Superior region. We may however rely up it, that a larger one will soon be found, and reported by some enterprising Yankee.

"We have during the past week, had an opportunity of inspecting one of the largest masses of native copper which we believe has ever been produced, or certainly, that has come under notice, in England. The slab to which we refer has been extracted from the Trenance Mine, situate four miles south-west of the Lizard Point, Mullion, in the country of Cornwall. The rock in which the lode is placed, from whence this "prill" has been obtained, is serpentine, very ponderous, and, we should imagine, containing metal, whether tin or other substance. The lode is about 4 feet big, and at the point from whence the slab under notice was obtained, is about 14 fathoms in depth, and would appear to be the same run of ore as that obtained at about 6 fathoms nearer surface, and reported in our columns some 12 months since. The slab is about 7 ft. 6 in. in length, and about 2 ft. 6 in., while the thickness varies from 4 to 12 inches, or giving an average of 8 in., forming part, as we are informed, of a slab, measuring at least 30 feet in length."—*London Mining Journal.*

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.

TO CONTRACTORS.

SEALED proposals will be received at the office of the Lafayette and Indianapolis Railroad Co. in Lafayette, until the 11th day of October next, for the Grading, Masonry and Bridging of that part of said road lying between the summit south of Durkee's Run, near Lafayette, and Lebanon, in Boone county, about 34 miles. Also, for the wooden superstructure for the same, in a distinct bid.

Plans and specifications will be exhibited by the engineer. By order of the Board.

ALBERT S. WHITE, Pres't.

Lafayette, Aug. 17, 1848. 6t35

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--
BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Plaining*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. / A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

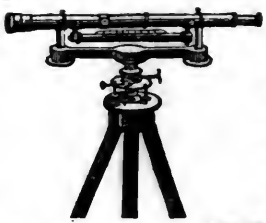
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ⅛ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



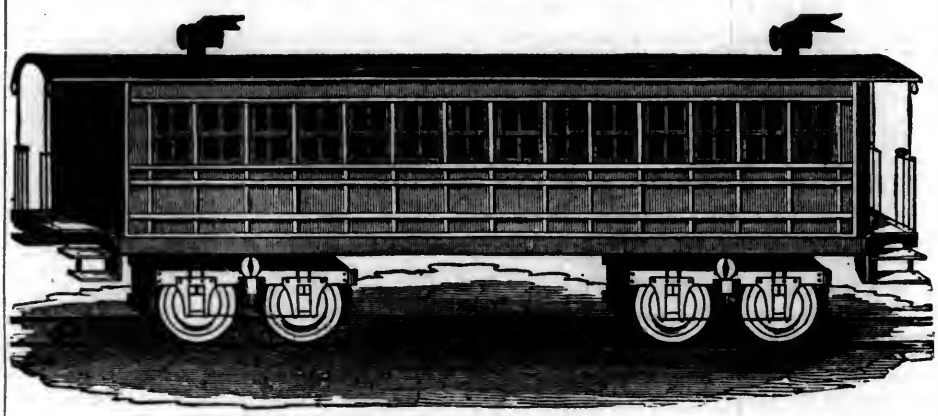
Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York

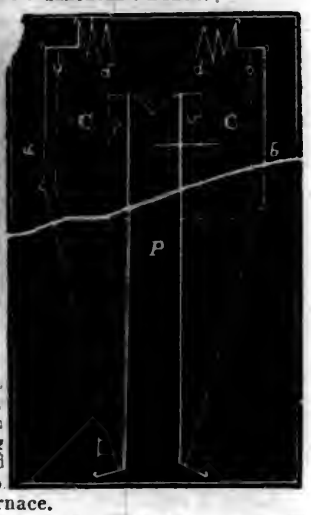
RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

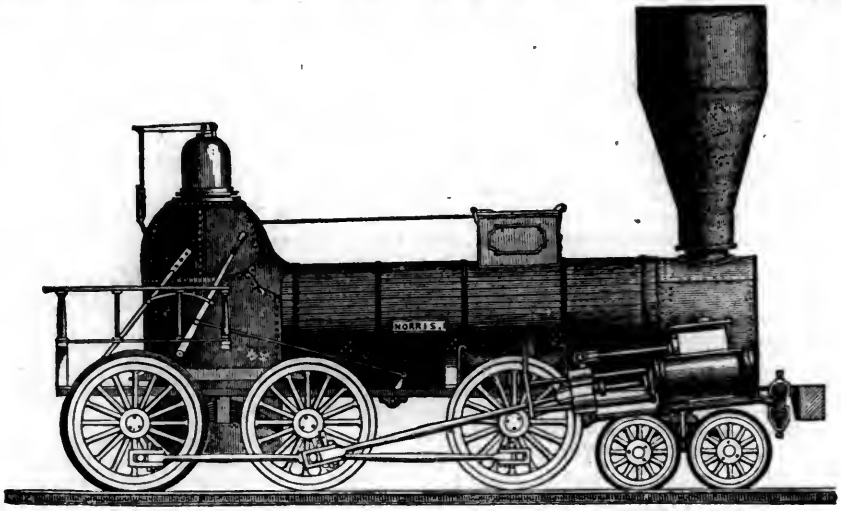
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

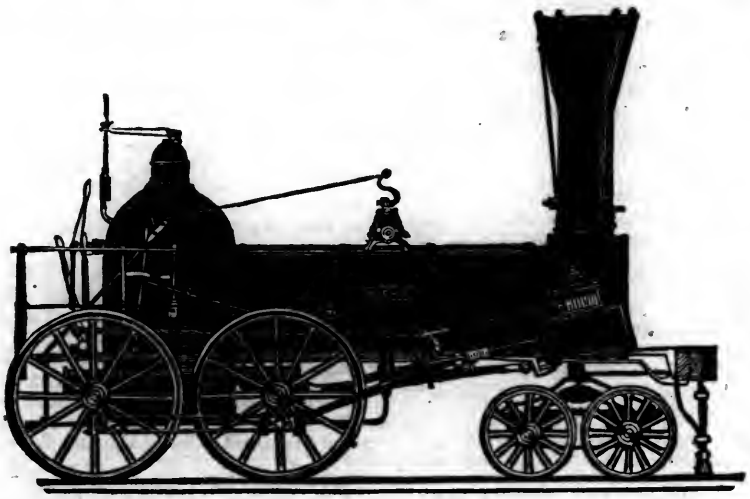
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25,1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger



trains will leave daily, Sundays excepted, as follows:



Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, Jr.,
Secretary of the Convention.

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

Summer Arrangement.


Commencing July 3d, 1848.


Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

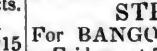
For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

BOSTON AND PROVIDENCE RAILroad. Summer Arrangement. On and after Monday, April 3, 1848, the




Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½ 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAILROAD. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

t25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

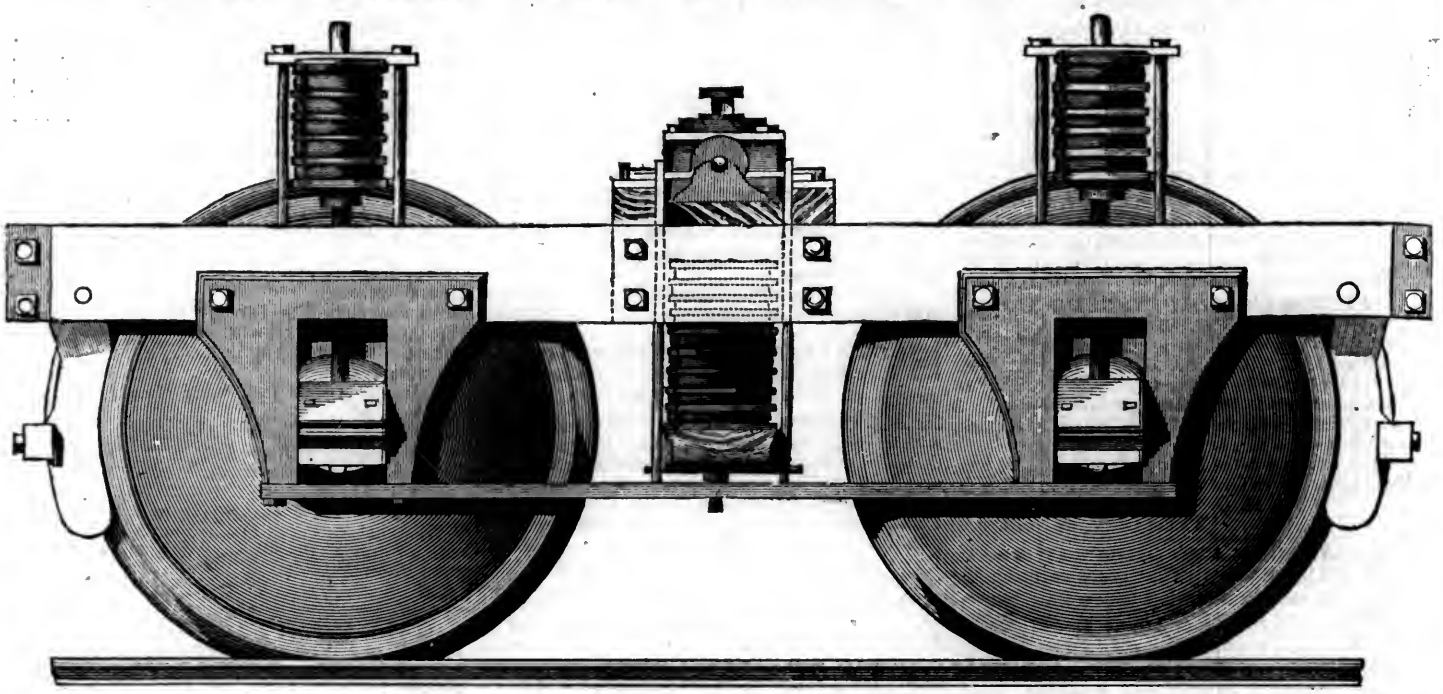
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company; on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for oaggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. & W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One column " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 41] SATURDAY, OCTOBER 7, 1848. [WHOLE No. 652, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, October 7, 1848.

☞ REMOVAL.

The Office of this Journal is removed from the *Franklin House*, to No. 48 SOUTH THIRD STREET, *third door north* of the *Girard Bank*.

*** A *special request* is hereby made, to those to whom Circulars have been recently addressed, that they will respond promptly to them, as an important question—to *us* at least—is to be decided in accordance with the response given to the request made in those circulars.

CAR MANUFACTORY,

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, October 2, 1848. 41tf

Cleveland, Columbus and Cincinnati Rail-Road.

The attention of CONTRACTORS is invited to the following "Great Letting of Work" on this road—which from their advertisement we should judge "comprises some of the finest ever offered" for their bids.

TO CONTRACTORS.

GREAT LETTING OF WORK ON THE CLEVELAND, COLUMBUS & CINCINNATI RAILROAD.

PROPOSALS will be received at the office of the engineer, in the city of Cleveland, until the 1st day of November next, at noon, for the grading, bridging, and masonry, also timber for the superstructure of one hundred and thirty miles of the Cleveland, Columbus and Cincinnati Railroad, lying between the cities of Cleveland and Columbus. Said work comprises some of the finest ever offered to contractors, and will be let in long or short sections, as may be desired. The approximate quantities are 3,500,000 yards earth excavation, 30,000 perches masonry, 300,000 cross ties, or sleepers, etc.

Plans, profiles and specifications of the work will be ready for inspection at the offices in Cleveland and Columbus on and after the 15th of October next. Payments will be made monthly, on a fair average value of work done; twenty per cent. of which will be retained to ensure fulfillment of contract.

FREDERICK HARBACH, Eng.

September 21, 1848. 3t41

This line is, perhaps, one of the grandest in the country—taking everything into view. The road commences at the city of Cleveland, and extends to Columbus, the capital of the State, where it unites with roads either in operation or constructing—thus forming a complete connection between the lakes and the Ohio river, *in the direction of both*: and at the two great commercial cities of the State—Cleveland and Cincinnati.

Its maximum grades, after having ascended the table lands at Cleveland, are only *fifteen feet* per mile, and the amount of curvature is less than any other road in the Union, of equal length.

The character of the work is to be of the most permanent and substantial kind; all the streams are to be crossed by heavy stone viaducts, except the Cuyahoga river at Cleveland. The rail to weigh 65 lbs. per yard, and laid upon a substantial road-bed of gravel or broken stone.

We are informed that everything is to be of the first order, and yet it will be comparatively a very cheap road. It passes through a rich and fertile country, already thickly settled, and producing the staple articles of food and export to a great extent. The cities of Cleveland and Columbus have each a population of 14 or 15,000, and Cincinnati about 120,000.

We are confident that no other route, of equal length, crossing the State, can be found, upon which are such grades and straight lines, or which can be operated for the same expense, or at the same speed.

Low Fares, and Increased Travel.

It is truly gratifying to find that all the railroads in New England—from which we have any returns—which have reduced their rates of fare this season—have materially increased, not only their number of passengers, but also their receipts.

The average rate of fare, on the roads terminating in Boston, including *season*, and commutation tickets, does not much, if any, exceed 1¼ cents per mile; yet all these roads are doing a very prosperous business—and greatly enhancing the value of property both in the city, and along their *entire* line, and also for many miles beyond, as they bring those regions, not penetrated by them, as much nearer to market than formerly, as the *entire length of the railroad*.

It is difficult to arrive, by demonstration, at the true value of the railroads in Massachusetts—or at the *increased value of property, in consequence of their construction;* but we think it cannot be beyond the mark to estimate it—in the city and State at large, and in States adjoining, benefited by them—at *ten times their cost;* or at least equal, *annually*, since their average completion, to the *entire cost of all the roads in the State*. No man, not familiar with the position of things before their construction, and now, can realise, and appreciate, their influences. The very ground on which the *U. S. Hotel*, where we now write, and the immense Worcester and Western railroad *depots*, and a thousand brick buildings, now stand, was—if we may use a Hibernicism—*water ten* years ago; and the very extensive flats around Boston, always covered with water to the depth of five to eight feet, at high tide, will be speedily filled in, and at no distant day, be covered with dwellings, and workshops and manufactories. And these results are owing *mainly* to railroads, and *very much* to a system of *low fares* and *frequent trains* on the railroads.

Why may not Philadelphia profit by a *similar* policy? and why may not New Jersey *participate* in it? Not for want of position, but in consequence of granting a monopoly to abuse its privileges. Is there no remedy? We shall see!

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 23rd inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Sept. 20.	4,943 01.	179,362 02
By Room Run	2,688 05..	90,739 10
By Hazleton	1,709 00..	68,458 00
By Beaver Meadow	2,664 05..	61,738 07
By Buck Mountain	1,502 18..	53,815 06
By Spring Mountain	1,919 03..	50,326 04
By Cranberry Mines	549 00..	10,549 90
White Haven	707 16..	8,115 11
Diamond Co	689 06..	1,903 03
Total	17,353 14.	523,556 03

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 28 h inst., and since the 1st of January, has been as follows—

	Tons
From Schuylkill Haven	10,465 02
" Pottsville	4,566 13
" Port Carbon	5,272 09
" Port Clinton	2,911 14
Total this week	23,226 18
Total this year	946,777 13

The amount of coal brought to market by the Schuylkill canal during the week ending the 28th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	7,446 13
" Schuylkill Haven	3,898 06
" Port Clinton	829 00
Total this week	12,173 19
Total this year	323,633 00

Recapitulation.—Total Shipments this Season.

By Lehigh companies	525,556 03
By Reading railroad	946,777 13
By Schuylkill canal	323,633 00
Total	1,795,966 16

Indiana Railroads.

The Cincinnati Gazette says, "Our Indianapolis friends seem determinately bent on making their city the centre of a little railroad system which shall ensure the prosperity of the Hoosher capital, and of all the towns in this manner connected with it. The State Journal gives a good account of the prospects of the Indianapolis and Peru railroad, and expresses strong confidence in the completion at no distant day of the Indianapolis and Lafayette railroad. A party is also engaged, in locating the Indianapolis and Bellefontaine railroad. The final location of the Indianapolis and Terre Haute railroad has been completed, and the letting to Greencastle, about 30 miles, will soon be made.

"Any one who will cast his eye over the map of central Indiana, will see that the State Capital is weaving a handsome little iron net about her, to make up for the absence of natural channels of trade. She is pursuing a wise policy, and all that is needed to ensure it success, is a course of prudent movements at the outset. Let her interest as much as possible, in the building of the several roads under view, the farmers along their lines, and all will be well. Foreign capital may properly enough be obtained on bonds, to put down the rails and supply the equipments, but should not be sought till the roads are graded, the bridges built, and the whole wooden superstructure is completed.

"We note these evidences of the prosperity and enterprise of our Indiana friends, with real pleasure. The fourth State of the Union, in point of population, as she will be at the taking of the next census, it behooves her to show that she has a spirit worthy of her excellent rank."

Good advice this of the Gazette. Let every man along the line own stock in the road—then they can manage it.

Massachusetts the Starting Point.

"Old Massachusetts has ever taken the lead in what is great, good, useful and profitable. She established the first school in the United States, the first academy and the first college. She set up the first press, printed the first book and the first newspaper. She manufactured the first cloth and the first paper. She planted the first tree and caught the first whale. The coined the first money, and hoisted the first national flag. She made the first canal, and the first railroad. She invented the first mouse trap and washing machine, and sent the first ship to discover islands and continents in the South Sea.—She produced the first philosopher, and made the first pin. She fired the first gun in the revolution, gave John Bull his first beating, and put her hand first to the Declaration of Independence. She invented Yankee Doodle, and gave a name for ever and ever to the 'universal Yankee nation.'

"And where is she now? Reaping the reward of her energy and perseverance. It is no exaggeration to state that the people of Massachusetts are at this moment better fed, clothed, educated and governed, than any other nine hundred thousands persons, taken collectively, on the face of the globe."

In the main we agree with the writer of the above in the Scientific American, though we are not quite sure that he is correct in every item. Yet in the *last* assertion, viz: that "the people of Massachusetts are at this moment better *fed, clothed, educated* and *governed*," than any other equal number, taken as one government, on the face of the globe, he is undoubtedly so.

Prairie Car.

The Springfield, Illinois, Register has the following remarks in relation to a steam carriage for common roads, built by Gen. Semple, formerly U. S. Senator. We have occasionally, for several years past, heard of this carriage—but have had very little *faith* in its success, on the *prairies* of the west, after the repeated failure to introduce them on the very superior turnpike, and macadamised roads of England. Some of the able men of that country, and especially *Mr. Hancock*, spent large amounts in their efforts to introduce "steam carriages on common roads," and, to a certain extent, they were successful: that is to say, carriages were constructed which performed some interesting and extraordinary feats of running, yet they were not introduced for daily performance upon a single road in the kingdom, and have, we believe, been entirely abandoned.—This, however, is no good reason why we *may* not, in this country, effect an object so desirable, as we *have* done *some* things which *no other people* have done; and we shall do *other* things, which have been attempted, and abandoned, by the people of other nations—and *this* may one of them. We hope it is, and that *General Semple*, and *Illinois*, will have the benefit and the credit, of accomplishing an object so desirable—and useful, if the carriage can be run from Springfield to Alton, at the rate of *ten* miles an hour, with *fifty* passengers, as cheap as a stage coach. We are not quite sure whether the writer means that it can be run as cheap as *one* coach, or *five* coaches: even if the latter, the *speed*, ten miles an hour, will be a very important gain over the old coach system of travelling—and we shall be delighted to promote the success of the invention, and to honor the inventor.

We have never had a description of the plan, except that the wheels are to be very broad on the tread—but should be much pleased with, and obliged to, the inventor, or the editor of the Springfield Register for, such a description as will enable us to understand, and judge of it. We would travel fifty miles to see it, and take a ride in it.

The article alluded to above is as follows, viz:—

"Gen. Semple has been engaged in the vicinity of this place, for some two weeks past, in making experiments with the prairie car. Many of our citizens have witnessed the operations of the car, and have expressed their conviction of the complete success of the undertaking.

"We understand that the car now used by Gen. Semple was never intended for business purposes, but was built merely to test the principles of the broad cylinder wheels on the prairie. The engine is not on springs, and consequently cannot be expected to make very great velocity, yet it has been run regularly at four to five miles an hour, carrying fifty passengers, and for several miles has run ten miles an hour. There is no doubt that a car properly constructed can be made to run ten miles an hour with perfect safety.

"Going, however, at five miles an hour, this car would make a trip to Alton in less time than the stage coaches. Fifty passengers would be more than five times as many as the coaches carry; while the expense of making the trips would not exceed that of the coaches."

Improvement in Railroad Speed.

"Two weeks ago, says the Hartford, Ct., Times, a railroad train, with a new engine, having 5½ feet driving wheels, ran from Springfield to Hartford with five passenger cars and 250 passengers, in the short space of 33 minutes. The distance is 26 miles—or at the rate of 50 miles an hour—and from New Haven to Springfield, a distance of 62 miles, in one hour and thirty minutes. This is the quickest trip ever made in this country with a heavy train over any railroad, and the road is now regularly run with greater speed than any other railroad in the United States, and with double the average velocity of railroads out of New England. This is owing to the road being remarkably straight, level and thoroughly constructed.

With engines having driving wheels seven and eight feet in diameter, which have been brought into use on the best roads in England, there is little doubt that the Hartford and New Haven railroad could be run with perfect ease and safety at the rate of 50 to 60 miles an hour. But the engine makers of this country hitherto have enjoyed to such a degree a monopoly in their business, and realised such large profits, (from 40 to 50 per cent) upon it, that they have been contented to furnish the old fashioned small wheel engines, and not shown the usual enterprise of our American artisans in keeping pace with and generally outstripping the improvements and inventions of their British rivals."

We want to see our trains making the average speed of 50 miles an hour. They will do this yet. The time is not distant when *thirty* miles an hour will be a common speed on some of our American railroads—and on *one* at least the ordinary speed must be at least *forty* to *fifty-five* miles an hour.

We do not think the reflection either just or merited, upon our locomotive engine builders. They

work for their employers, who, like most other people, order what they want, or what they *think best* for them, under their peculiar circumstances. The managers of our American roads have usually their own views and opinions, and they generally—there are exceptions—direct as to size and number of the wheels, and weight of engine.

Our railroad companies have not had an abundance of spare capital to enable them to make large outlays, upon experimental engines, like some of the English companies; and, again, most of our American railroads have been too uneven for very *high* speed, with engines on the usual plan, and wheels of eight, or even seven feet diameter—as the centre of gravity would be too high for safety.

Improvements will, however, be made both in the condition of our roads, and engines. Plans will be devised by which the wheels may be of greater diameter, and the centre of gravity brought lower, at the same time; but the precise manner of doing it, we cannot predict, though we have a favorable opinion of the plan of Mr. Norris—published in our Journal of September 9th, with a beautiful lithograph—designed for burning anthracite coal.

If he is correct in his views with regard to the position of the fire, in relation to the principal heating surface, and *direct radiation*, then has he accomplished much in the way of using a cheap and increasing fuel, instead of an expensive article which is growing daily more scarce and more expensive. Again, if there are not practical difficulties in the way of inserting the driving axles through the centre of the boiler, of which we will not pretend to decide—though we see none very serious—then will he be able to use wheels of any desired diameter, and still have his weight of metal in the right place, and thus get high speed with entire safety.

South Carolina Railroad.

Reply of the president to the committee of investigation.

Continued from page 628.

In several of the cuts on the Columbia road the only remedy for the disappearance of the sill was the substitution of a *second* between the first and the cross tie, and in some instances of great labor and cost. To ascertain when and where the sills had thus failed in the support intended, became a work of search and the compact settlings of the whole road bed had to be disturbed to ascertain the depth which the sill had sunk, and to remedy the inequalities in the road bed occasioned thereby. Aware that this, with many other modes of construction were still matters of speculation involving much disagreement of opinion among engineers—after consultation with the scientific and efficient engineer in charge of the Camden branch—it was recommended to and approved by the direction *that several of the modes of superstructure in operation on the different new roads* should be tested in *sections* on the Camden branch, that we might be able to decide which was most perfect, and offered the best guarantees for a good working track. The first section is built after one of the plans of the New York and Erie road, and has the heavy mud sill acting likewise as a longitudinal sill, so highly commended by the "Committee."

The second section is of trestle work over the Wateree, and the rail is attached to a lon gitudinal sill.

The third section now in progress, and which has been objected to by the committee —*conforms to the old most favored* plan of cross tie road, where the iron rail is of sufficient weight, as in this instance, to dispense with the longitudinal sill. The plan is cheap and simple of construction and easily repaired. It has been greatly improved in this case by adopting the sawed cross tie of uniform *length, breadth and thickness*, sawed to the same gauge, the level of the road bed is preserved on the rail without dubbing, and any one piece may be removed and replaced without disturbing *its neighbor, or the iron rail.* The cross ties on the Camden branch are wider *than usual*, and are placed at regular distances not involving intervals exceeding 22 inches. The road is literally floored, and the bearing (*which is considered the perfection of a railroad*) is unequalled by any *railway* in the United States. Their mode of structure is further recommended by their being no concealed timber. The whole structure is exposed to daily inspection, and defects may be detected and as soon removed.

The fourth, and last plan of construction, is the Herron track, or lattice road bed. It has been highly spoken of by the managers of the Reading railroad, on which there is a small section in operation, and those in charge of the New York and Erie railroad have adopted this plan on a portion of their track.

These are the views, in confirmation of what has been said in relation to want of uniformity in another part of this report, which have influenced your president in experimenting on and sanctioning various plans with a view to conclusions, from experience, more settled than at present exist as to the most perfect superstructure.

Where a company have the ability to select the most important element of perfection, a *heavy rail*, capable in itself of sustaining the weight to be applied on it, *the simple wide cross tie road*, adjusted on a firm bed—as on *the Camden branch*—will be found best to stand the test of service. But where old structures have to be improved, and expedients resorted to, to counteract the acknowledged defects of a light rail, *such as on the Hamburg road*, the wooden structure must vary with the experience of those always on the spot, and vigilant in detecting errors and in applying remedies. We feel assured, therefore, that could the committee have the opportunity of re-examining, and of reviewing of opinions, they would reverse some of the conclusions to which they came; and would, most of all, do justice to a *construction* which challenges a comparison with any other structure, with similar weight of rail, in the United States. While on this subject, the president, with much gratification, reports that the Camden road is now approximating to completion. All the arrangements for the timber and materials have been made; and that the *actual cost* will fall short of the estimate about $170,000. This circumstance, at this crisis, while it is creditable to the engineer in charge of the work, cannot but be a subject of congratulation to the stockholders as relieving the company from a large anticipated obligation to be provided for this enterprise; while, in the reduced capital invested, it offers the surest guarantees of its proving a most profitable feeder to the South Carolina road, of which it now becomes the *eastern branch.*

Any changes of construction, as now suggested by the committee, would not only disturb existing contracts, but require an entire suspension, and at *very great* and *unnecessary additional cost* to the company.

The location of a permanent depot, with appropriate accommodations, at the Charleston terminus; the construction of new workshops, more secure, more concentrated, and better adapted to the economy of service; and the remedying, as far as practicable, on the most judicious plan, the supposed impediments at the inclined plane, have all been subjects, as you can testify, of deep solicitude to our direction. They have been brought to the notice of the stockholders in every annual report, and for the obvious reason that they alone could decide on the locations, and that the cost would involve expenditures far beyond the resources of the revenue, if it could be applied to those objects, and would have to be provided from other sources.

In anticipation, however, of some ultimate action on these important operations, opportunities have not been permitted to escape of enlarging the company's domain near the depot and workshops. An eligible site has been secured for the latter, and one which has met with the approbation of the whole committee. Thus seconded, as has been the policy of the board, by the unanimous recommendation of that respectable body charged with pointing out the defects and deficiencies existing, it is to be hoped that prompt action will be taken at the approaching meeting for the commencement and completion of those indispensable improvements.

The *inclined plane* is one of the original parts of the road, and it is due to the direction and engineers who adopted it, instead of grades of lesser elevation and greater length, adapted to the imperfect performance of locomotives, that they had preceded in their surveys the officers charged with the examinations and estimates which have been made for the information of this board. Well instructed as were the able engineers in the service of the company at that period, in all the peculiarities of that abrupt and singular district of country, of *precipices and chalk hills*, it is common candor to suppose that they submitted the whole matter to scientific calculation, before they hazarded the responsibility of a decision. The company are now restricted. The inclined plane is a part of the road, has cost a large amount, and is performing, though with some additional expense and delay, all the company's service, and is capable of being so improved with stationary power as to perform *ten times the amount.*—Our direction have evinced no prejudices on this subject; they have participated in none of the zeal which has imparted unnecessary excitement to its investigations. They have studied to reach the truth, and are probably as much in doubt, and as much divided in opinion as are many of the stockholders.—The lights they have in reports, estimates,

comparative calculations and surveys, have all been submitted to the stockholders, and have been before the committee. These, with the reports of the committee, may enlighten the stockholders to some decisive action, which has become necessary to quiet agitation and correct misrepresentation.

A railroad is an exceedingly complicated machine to manage. To adjust all its parts in harmony, involves a knowledge of government, of science in all the departments of mechanics and machinery, and the exercise of untiring vigilance and zeal on the part of all its agents. That some of the workings of such an establishment, which has to accommodate a whole public, may at times be deranged, it is reasonable to expect; and impartial investigation will always contribute to correct mistakes and restore order. It has been the constant aim, I know, of this direction to do so; and that an honorable committee in their examination should have differed, is an evidence that there are two opinions on the administration of the affairs of the company, which the stockholders are called upon to decide. Questions of policy as to the difference of fares, tariffs of freight, forwarding service, and the exclusive duties of common carriers, do not involve censure, but are *merely speculative*, on which the committee and the direction may very honestly differ.

In the policy pursued on these subjects, there has been no precipitate action. In establishing connections and rules of service, and in regulating rates of fare and freight, the necessity of counteracting competition, and of stimulating a healthy increase of trade and travel, have been carefully considered.

In the tariff of charges, the rule laid down by the committee has in all instances been observed—the *lowest* remunerating rates producing the *largest revenue*. To what extent this rule has had its influence on the family and season tickets, may be best derived from statements which will be laid before the stockholders. The committee are in error, as the direction know, as to any general practice of extending favors to corporations or large dealers. Concessions as to freight, *and only on machinery in the progress of the construction* of a great enterprise, the business of which in the future, in enlarging the transportation on the road was the consideration, have been made. The case of store room enjoyed, and for which an equivalent was paid, was rather an incident, (seemingly unavoidable,) of the rule regulating the payment of storage, and not a boon to large dealers. Goods and merchandise, not removed within a week, are charged storage; and though the duties and responsibilities of common carriers do not impose that of storing, yet it has become one of the incidents of railroad service, practised by all roads, and exceedingly difficult, if not impossible, under existing arrangements, to avoid.

Larger accommodations are required at the Charleston terminus, for the *reception* of merchandise to be transported; and the same cause operates the necessity of store room above for the protection and delivery particularly, as a large portion of the freight is for country merchants and has to be wagoned from the depot. Once in store and paying for the accommocation, it would be difficult to enforce a rule, that no *portion*, no wagon *load*, should be removed without the *whole*. Such a rule would derange the operations of all our interior merchants, and give great dissatisfaction, unless a similar accommodation was extended by other parties. The company, therefore, might relieve itself by permitting private warehouses, and *tracts into them* around their depots, and advertise that goods not taken from the cars as delivered, shall be delivered to the nearest warehouse, as on the Charleston wharves. Even this arrangement, however, may need consideration. It is difficult to have any defined regulations as to the freights, fares, etc., which must be governed by *time, circumstances and places*, and any attempt on the part of the stockholders to restrict the direction, may lead to embarrassments and abuses more mischievous than those which the committee seem desirous to shun. It is the direction only who can attend to details, and act as the circumstances and occasions recommend.

The best and only test of the good condition of a railroad and of its management is to be derived from its successful working, the *statement of operations, and comparison*. As to the first, both sections of the committee speak in the most emphatic and complemenary language. The minority say: "In all that concerns the comfort and safety of the traveller, in the regularity of its trips—in freedom from accidents and detention—in the neatness and convenience of its cars—in the politeness and attention of its officers—it may fearlessly invite comparison with the often quoted, and greatly lauded roads of the north; and as mail carrier it stands, and has been ranked by the postmaster general, in the first class." In still stronger language the majority conclude, "That they take great pleasure in acknowledging their obligations to the officers of the company for the facilities afforded them in the progress of this investigation.—They feel much gratified also in testifying to the ability and fidelity with which the busness of transportation in all its various departments is conducted. The mail and passenger trains have been carried with a certainty and regularity not surpassed by any road in the U. States, while the freight trains have been forwarded with promptitude and dispatch. Casualties, on the road, either to persons or machinery, engaged upon it, are rare," etc. "In *this respect* it may safely challenge comparison with any road either in this country or Europe." Prejudices may mislead, and opinions be in conflict, but facts speak for themselves; and as to the fact of *the successful working* of the road, the investigating committee did not *dissent*, but were *unanimous*.

The annual report gives the cost and a statement of the operations and expenditures of the South Carolina railroad. It is proposed now to institute a comparison with some of the other roads in the United States; and we will begin with those which are reputed to make largest profits, and to be managed with the greatest ability and economy.

The cost of sixteen railroads in Massachusetts, is $31,728,430, being an average per mile of $53,627. Twelve are finished and in operation, and the average ratio of current expenditures to the receipts is 56 3-6 per ct. for the last year. All the appropriations for additional motive power and new cars, are separate items of charge, many of them large, and all carried to the head of *extraordinary* expenditures, or *capital*, leaving as current, those for articles and service which are consumed in the use, and show no residuum.—Among these roads, the *highest ratio* of enpenditure was 84 per cent. of receipts; many ranging between 60 and 75, and but one as low as 40 per cent.; and this explained by its being *a recently constructed road*, with all the modern improvements, and almost exclusively for passengers, running trains every two hours, and showing a receipt for passengers of $343,372 against but $50,455 for freight. The Western road to Albany shows a ratio of 52 per cent. for current expenses. It is but 117 miles in length, and has cost $6,983,233, and among the items of current expenses, the one for *fuel and oil* alone, amounts to $135,545 for the year.

The receipts for passengers on most of the Massachusetts roads, greatly exceed the am't for freight, and they should therefore be managed at a cheaper rate than roads on which freight predominates as on the South Carolina.

New York.—The cost of six New York roads is placed at $8,330,661, and the average per mile $27,403. As we have no exhibit of their revenues and expenditures, the presumption may be that the former are nearly absorbed in the latter

Maryland.—Baltimore and Ohio railroad, 179 miles in length, has cost $7,623,606;—and the Washington branch, of 43 miles, $1,650,000. Total $9,273,600, or $41,777 per mile.

The average ratio of expenses to receipts is 51 per cent. on one, and 58 on the other.

Georgia.—The Central road, 190 miles, has cost $2,600,000, or near $15,000 per mile.

Its ratio of expenses to receipts is, for the last three years, 57 per cent., 56 per cent. and 57 per cent.; and for the same periods were expended in locomotive power, cars, etc., and charged to *extraordinary expenses*, the sums of $80,321, $35,340, and $37,324; which, if to be classed as current expenses, as contended for by some of the committee, would have increased the ratio above to 80, 68 and 69 per cent. of the receipts.

The Georgia road, from Augusta, of 210 miles, including branches, has cost $4,328,594, or $15,850 per mile.

Its ratio of current expenses to receipts for the last two years has been 43 and 39 per ct. For the same period, however, the charges for cars, locomotive power, etc., were $54,846 63, and $71,135, which, if passed to current expenses, would have brought up the ratio to 64 per cent. for 1846, and 54 per ct. for 1847 of expenses.

It may be here remarked, that a large por-

tion of the labor on this road, is owned by the company, and represented as capital.—Interest therefor on the amount, and not wages at a higher rate, is the charge against current expenses for a force on the road.

South Carolina. — The South Carolina road, including branches, etc, of 204 miles, has cost, with the high bonus paid for the purchase of the Hamburg trunk, $5,546,735 48; to which if we add the estimated cost of Camden road, $556,436 50, it will make for 242 miles of road, $6,203,171 98
Or per mile, 25,633 00

The Baltimore and Ohio, including the Washington branch, which was commenced and built within the same period of the Hamburg railroad, and 222 miles in extent, cost $9,273,600 00
Or at the rate per mile, 41,777 00

For the three consecutive years previous to the consolidation of the South Carolina railroad company, the rates of *current expenses* to receipts, was at 72, 71, and 64 per cent.

For the four years since the consolidation, the ratio of expenses to receipts has been 49, 50, 51, and 47; and if we add to the current exeenses of the last year the amount of $94,-124 59, fairly chargeable to machinery and car power, now open for inspection in the yard, and not *consumed*, as insisted on by the "majority of the committee" in their tabular statement, it will increase the ratio for the year 1847, to but 60 per cent., which is 4 per cent. less than the average on the Georgia road in 1846, and 6 per cent. more than for the year 1847, and when the outfit for locomotives and additional cars was greatly increased in the preparations necessary for a confidently expected augmentation of business.

In contrasting the operations and expenditures of the company, as consolidated, with those of the three years previous, it is with no view of drawing an unfavorable comparison between the then existing administration of the road—but, on the contrary, to fortify the present government with the testimony of the past; and under a personal supervision, economy and energy, which was vigilant and untiring, as to the unavoidable large expenditures necessary in maintaining so imperfect a way as that of the *Hamburg road*, in a good *working condition*.

Respectfully submitted by
JAMES GADSDEN, President.

Smelting Copper Ores.
An Improved Process.

As the mining of copper increases, so will improvements be made in the process of working it. We therefore give the following description of *Mr. Birkmyre's* process as we find it in the Civil Engineer and Architect's Journal for July.

William Birkmyre, of Southdown, Cornwall, for "*Improvements in smelting copper and other ores.*"—Granted November 16th, 1847; Enrolled May 16th, 1848.

The chief object of this invention is to remove the nuisance arising from the sulphuric and sulphurous acid vapors, and from the vapors of arsenic during the smelting of copper ores. The process is thus described: A double iron pyrites kiln is constructed upon the usual principles, the ash pits being furnished with a leaden cistern, filled with water, to abate the nuisance arising from the sulphurous and arsenious acids, when drawing out the mundic ashes. Over the charging door for the mundic, is an air hole, provided with a damper, to regulate the passage of the oxygen necessary for combutions. The size of the double iron pyrites kiln should be 13 feet long, 7 feet 4 inches wide, and 8 feet high, and each furnace should be 5 feet in diameter, and of an octagonal form, lined with fire bricks. Above the charging door for the mundic, resting on two or three bars, is a tray, made of iron or copper, 4 feet 6 inches long, 3 feet 6 inches wide, and having a rim round it 3 or 4 inches deep. This is so placed as to enable the air and acids to pass freely out of the top of the furnaces into a vitriol chamber, which is placed over the kilns. The vitriol chamber should be 150 feet 6 inches long, 11 feet 3 inches wide, and 9 feet deep, divided into three compartments, technically called "bottom." The acid in that compartment nearest to the kiln being impure, should be kept apart, but the acid in the second and third compartments will be found to contain good vitriol. These pair of kilns will be found capable of producing two tons of copper per diem, by means of mundic, and, at the same time, of three tons of vitriol of a specific gravity of 1 847. The copper ore being broken into pieces, about the size of walnuts, is put into the tray by means of a shovel or hopper (the furnace being charged with iron pyrites and previously kindled). After a lapse of six hours the kiln is to be charged in like manner, and so on alternately. For every 8 cwt. of mundic ashes withdrawn, add a charge of 10 cwt. of mundic containing 40 per cent. of sulphur, as for every 32 parts of sulphur it loses, it gains only 12 parts of oxygen; but in copper ores, if the process is carefully completed, it gains oxygen as it loses in sulphur; some copper ores it is stated will gain as much as four per cent. About 1½ cwt. of ore should be placed in the tray, and the charge should be spread out into a body of from 1 to 2 inches thick, which should be turned over now and then, in order that every part of it should be exposed. After being submitted to the process for one hour, it is to be turned into a leaden cistern, suppled with hot water from the cooling cisterns underneath the kilns to undergo the process of lixivation. The tray is then again charged with ore, and the process is continued. It requires two roastings and lixiviations by the ellectro metallurgic process to obtain the pure copper. Another method of calcination is, when the pulverized copper pyrites are exposed in the tray, pour upon them a hot salution of nine parts of saltpetre, and eight parts of cubic nitre, or 16 per cent. of saltpeter and 10 per ct. of vitriol, or equal quantities of saltpetre and vitriol to half the quantity of the ore. By this system, the deutoxide of nitrogen, necessary for making vitriol on a large scale, is seperated, and the oxidation of the ores accomplished. The patentee claims—First, roasting separately common ores of copper and other metals, by exposing them in an open vessel in a mundic kiln, so that the vapours shall freely mix with the vapours of combustion of the iron pyrites, and he condensed at the same time in the vitriol chamber. Secondly, the seperating simultaneously the deutoxide of nitrogen, for the vitriol chamber, with the oxidation of the ores, by saltpetre or cubic nitre. Thidly, the supplying the vitriol chamber with steam, by using saltpetre or cubic nitre; and, fourthly, the action of sulphuric acid upon the ores, either before or after they have been freed from the sulphate and arsenic of potash and soda.

From the Civil Engineer and Architects' Journal.

On Chemical and Electrical Forces.

BY PROFESSOR FARADAY.

Continued from page 629.

The greater portion of the *third lecture* was occupied with the consideration of the decomposing power of electricity, in which respect its action seems the reverse of that of chemical force. The latter power acts by the affinities of the particles of one substance for those of another, and the results of its action are the formation of new compounds; electrical force, on the contrary, resolves compound bodies into their elements, and may act at a distance from its exciting cause. Numerous illustrations of the decomposing power of the valtaic battery were afforded, one of the most curious of which was the decomposition of muriatic acid by the following arrangement:—A glass vessel was divided into three compartments by diaphragms of blotting paper, and filled with diluted muriatic acid, the acid in the two end compartments being colored with indigo. When the wires from the negative and positive poles of the battery were inserted in the two coloured divisions of the vessel, the muriatic acid became decomposed, the chorline passing to one end, and the hydrogen to the other; which effec was rendered visible by the bleaching of the liquor in the end to which the chlorine was determined, whilst the middle compartment, through which the current force must have passed, remained unchanged. The decomposition of iodide of potassium offorded a striking example of the rapidity with which decomposition takes place under the influence of electricity. Across a piece of paper, wetted with a saturated solution of iodide of potassium, Professor Faraday drew rapidly one of the wires from the battery, when a strong brown mark was left, showing that the iodide had been decomposed. By pressing a coin on paper similarly prepared, and then touching it instantaneously with the wire of the battery, an impression of the coin was left on the paper, caused by the decomposition of the iodide where the parts most in relief had touched the paper. The amount of decomposition is, in all cases, proportionate to the current force; and though chemical decomposition does not take place excepting when the current is inturrupted, yet the power is always active in its curcuit though the connecting wires. The deflecting of a magnetic needle, when placed parallel to the conducting wire, was adduced as a proof that the

power exerts an influence at every part of the circuit, and the plates of the voltaic battery were shown to have the same power as the conducting wire, in deflecting the suspended needle from its ordinary position of north and south. This current of force throughout was noticed by Professor Faraday as one of the many instances in which electrical force differs in action from chemical force, which is always local, though the two forces are really identical. The constant evolution of electricity, when we least suspect the presence of such an agent, was curiously exemplified by cutting a raw beef steak with a steel knife and a silver fork, the knife and fork being connected by wires with a voltameter. As soon as the knife touched the meat, a current of electricity was evolved sufficient to deflect the needle of the voltameter. A cooked steak, peppered and salted, produced a still more powerful effect on the needle.

In the *fourth lecture* the alliance between the chemical and electrical forces exhibited in the evolution of light and heat, formed the principal point to which the Professor directed attention, and he illustrated the subject by numerous brilliant experiments. The light and heat produced by violent chemical action, of which a burning candle is a good example, form no essential part of the action that takes place among the combining particles, but are merely transient phenomena resulting from the activity of the combination. In the same manner, the light and heat evolved during combustion of substances by the voltaic battery, are the results of the combination of the zinc plate with the oxygen of the exciting liquid. To exhibit the voltaic light the lecture room was darkened, and then pieces of charcoal where exposed to the action of the battery. The intensity of the light thus evolved was contrasted with the flame of an argand lamp, which was scarcely perceptible in the overpowering splendour of the voltaic spark. The combustion of silver leaf, of iron wire, of platinum, and of mercury, formed other dazzling exhibitions of the heat and light evolved by the voltaic battery, when the two poles were brought into contact with the metals. The heat thus generated is owing, Professor Faraday observed, to the passage of electricity though the substance acted on, and to the resistance they offer to its passage, for when the conductors are sufficiently large and perfect to afford a free passage to the electricity, no effect of heat is observable. A very curious experiment in illustration of this property of electricity was exhibited. In a glass vessel full of distilled water the charcoal points from the opposite poles of the battery were introduced, and when they were brought near to each other a most brilliant light was evolved under the water, dimmed only by the bubbles of steam generated by the heat. The water being an imperfect conductor of electricity, offered sufficient resistance to its passage to bring into action the heating and light giving powers of the voltaic battery; but when it was afterwards made a better conductor, by mixing sulphuric acid with it, the effect was greatly diminished. In the preceding lecture, Professor Faraday showed that wires proceeding from the opposite ends of a voltaic battery possess different powers in the decomposition of compound substances, and he now showed that their heating powers also differ; for the copper wires from the two poles, on being held close to each other within a short distance of the ends, the one became much hotter than the other. The quantity of heat evolved by the action of the voltaic battery is in proportion to the amount of zinc oxidized, and Professor Faraday remarked there is good ground for supposing that the heat evolved is equal to that produced by the combustion of the same weight of zinc. Though the intensity of the light varies in the phenomena of voltaic electricity, just as it varies in different circumstances during ordinary combustion, yet the heat remains the same in both cases. As an illustration of this position, the Professor directed his breath against a gas light so as to greatly diminish the brightness of the flame, yet in both circumstances, he said the heat of burning gas was the same. The latter part of the lecture was occupied with the consideration of the effects of electricity on the sensitive system of animals, and it was illustrated by several curious experiments. The original experiment of Galvani with the hind legs of a frog was very successful; for when the legs where placed on a sheet of platinum, and connection was made between that metal and piece of zinc that touched the nerves, the muscular contractions of the limbs made them jump as far as the animal could have done when alive. A large live eel, in a glass jar, plunged about violently when the electric current from the battery was passed through the water, thus showing, that without any direct connection with the battery, the electric shock is felt by fishes when the water they swim in is made part of the circuit. Professor Faraday alluded to the experiment made with the *gymnotus electricus* at the Polytechnic Institution, from which he had obtained all the effects of an ordinary voltaic battery. The eel itself does not feel the shock it communicates to the fishes within its influence, though when an electric current from a voltaic battery is passed through the water, it exhibits as much annoyance as any other fish. The Professor observed that the effects of electricity on the nerves of animals, give an insight into the phenomena of life, since they seem to prove that nervous irritability, on which the action of the muscles depend, is caused by electrical influence, though by what means the electricity is generated remains unknown.

The commencement of the *fifth lecture* was occupied with exhibition of the phenomena of electricity, when the circuit is not interrupted. The simplest evidence, that a constant action is going on in the conducting wire, is afforded by the deflection of a magnetic needle, when a wire that connects the two poles of a battery is held over it, parallel to the direction of the needle. Small pieces of bent iron, resting on the wire, became magnetic when the electric circuit was completed, and when the wire was twisted several times round a thick piece of iron, to increase the effect, the magnetic power became so strong, that it lifted an anvil of at least fifty pounds weight. The heating power of the voltaic battery, when the current is passing uninterruptedly along the wires, was shown by its making charcoal, and various thin wires red hot, in which state they would have remained as long as the battery continued in vigorous action. The conducting power of gold being greater than that of platinum, a fine wire of gold became a much brighter red by the passage of electricity through it, than one of platinum; and yet, when the two wires were joined together, the platinum wire became red hot, whilst the gold was not perceptibly heated. This anomaly Professor Faraday explained, by stating that the platinum wire obstructed the passage of the electricity, consequently the gold wire, which was capable of conducting a larger quantity, did not become sensibly effected by the small quantity which the platinum allowed to pass. The increase of heat diminishes the conducting power of metals, and several experiments were shown, for the purpose of illustrating this peculiar property, the red heat of one part of a communicating wire being brightened when another part of the wire was cooled; and the contrary effect being produced when the wire was heated by a spirit lamp. A great part of the lecture was occupied in explaining the two most popular theories respecting the nature of electricity, neither of which, however, Professor Faraday is inclined to adopt. One supposition is, that electricity is an ethereal imponderable body, distinct from the substances in which it is excited, and that it is transmitted along wires, in like manner to the rushing of fluids through tubes; the other, and as he observed, the more beautiful theory, is, that the phenomena of electricity are produced like sound, by vibrations. The Professor performed several experiments for the purpose of showing the facts adduced in support of each of these theories. One of the difficulties to be overcome in any theory that purports to explain the nature of electricity, is to account for the instantaneous transmission of the power, which has been ascertained to exceed the rate of five thousand miles in a second. In support of the first theory, it is urged that as there is an immense difference in the rapidity with which different fluids pass along tubes—water, for example, flowing slowly in comparison with hydrogen gas—so it is asserted that the assumed imponderable fluid may pass with a rapidity vastly greater than hydrogen gas. The vibrations of sound, however, present much greater similarity to the transmission of electricity. Though sound passes in air at the rate of only thirteen miles a minute, it passes through water four times as quickly, and through glass sixteen times faster than through air. There is this resemblance also between the passage of sound and the tranmission of electricity, that sound may be transmitted sensibly through solid bodies and becomes audible at the end. Two curious experiments were performed to illustrate this property of sound. A thin strip of deal was suspended from one end of the lecture room to the other, and at the farther end it bore against a box.

A tuning fork, when struck and applied to one end of the strip of wood, caused the box at the other extremity to emit a loud musical sound, though the tuning fork itself could scarcely be heard. In the other experiment a rod of metal passed through the floor of the lecture room, and was placed in connection with a pianoforte in a room beneath. When the instrument was played, scarcely any sound was heard, until a guitar case was placed on the rod, and then the notes were distinct and loud, as if proceeding from the guitar case. There is a similarity also between vibrations and electrical shocks, as may be proved by striking a bar of iron when holding it near one of the points of vibration, the jarring sensation bearing a close resemblance to an electric shock. This vibratory sensation is felt yet more strongly when a wet string is fastened round the waist, and some one pulls the end of it through the fingers.

To be Continued.

Locomotives for Steep Grades, or Sellers' Plan.

We recently published a partial description of this new and important machine, but were not able to give *such* a description, for want of illustrations, as it deserved; but we are now enabled, through the courtesy of the editors of the *Eureka*, to give a more full, and minute, account of the different parts of the machine, with illustrations, showing every part of it, by which it will be readily understood by machinists and engineers. We also give, in connection with the description, the remarks of the Eureka, who have seen it in operation, and speak from what they saw.

This description is taken from the London Journal, and from the English patent taken out in the name of A. V. Newton—though it is an American invention, by Mr. George E. Sellers, of Cincinnati, Ohio—and we give it as we find it.

To ALFRED VINCENT NEWTON, *of the Office for Patents, 66 Chancery lane, in the county of Middlesex, mechanical draughtsman, for an invention of certain improvements applicable to locomotive engines and carriages employed on railways,—being a communication.*—[Sealed, in England, 13th July, 1847.

The nature of this invention consists, firstly, in obtaining the requisite adhesion or bite on the line of rails for a locomotive engine and its train of carriages, in order to enable the train to ascend and descend inclined planes with safety and certainty, and thus to avoid the expense of heavy cuttings, or circuitous routes.

The invention consists, secondly, in certain means of employing the full force of the steam generated in the boiler, notwithstanding the varying motion of the train whilst passing over irregularities in the line.

The invention consists, thirdly, in an improvement in the construction of the locomotive boiler.

And fourthly, the invention consists in the application to railway carriages of a self acting brake.

In carrying out the first improvement, the gravitating force of the train of carriages is employed, either in ascending or descending inclines, to effect the requisite adhesion to a central rail, in such a manner that the adhesion shall increase in proportion to the angle of inclination and the weight of the train. This is obtained by connecting the train with a locomotive engine, provided with gripping wheels, which are capable of embracing a central rail, laid down on that part of the track only were high gradients are to be overcome. These gripping wheels, on ascending or descending inclined planes, are made driving wheels; and they have their bearing in levers connected together by two opposing toggle joints, which are operated upon by the connecting link of the train; so that, in ascending, the gravity of the train shall operate on one of the toggles, and thereby cause the wheels to grip the centre rail, with a force proportioned to the gravitating force to be overcome; and, in descending, the connecting link shall operate on the other toggle, to produce a like effect. To convert the gripping wheels into driving wheels, they are operated upon by an auxiliary pair of steam cylinders, of such capacity as will effectually work off, in conjunction with the ordinary cylinders, the steam generated in the boiler during the slow motion of the locomotive and train up the inclined plane. The arrangement for this purpose will be more fully described under the second head of the invention.

The Engraving, fig, 1, represents, in side elevation, a locomotive engine and tender. A, A, is the central rail, which must be secured in its place in the firmest manner; it is to rise to such a height above the ordinary rails, that its top may be within about two inches of the fire box; and, to accommodate it, the ash pan of the locomotive engine is made in two parts, so as to pass on either side thereof. B, B, are gripping wheels, which are made to press against the opposite sides of the rail A, with a degree of force proportioned to the gravitating power of the load, or the power of the drag which is to be overcome. These gripping wheels are acted on in the following manner: C, is a shaft, turning in suitable boxes in the frame of the locomotive. (These boxes, and the part of the frame that sustains them, are omitted in fig. 1, for the purpose of showing the gearings and their connections, that would otherwise be hidden.) The shaft C, and the parts in connection therewith, are shown in section at fig. 2, and in plan or top view at fig. 3. D, Dl, are two bevelled wrought iron wheels, which slide over a feather on the shaft C: and these wheels gear into two bevelled wheels E, El, connected by means of their bosses F, F, with the gripping wheels B, B, to which they communicate their revolving motion. The bosses F, F, pass through strong boxes G, G, (figs. 1, and 2,) on the inner ends of crank leavers H, H, which, on their outer ends, carry the progressive levers or toggle joints I, Il, (fig. 3). The levers H, H, work on fulcrum pins J, J, in the frame of the locomotive engine.

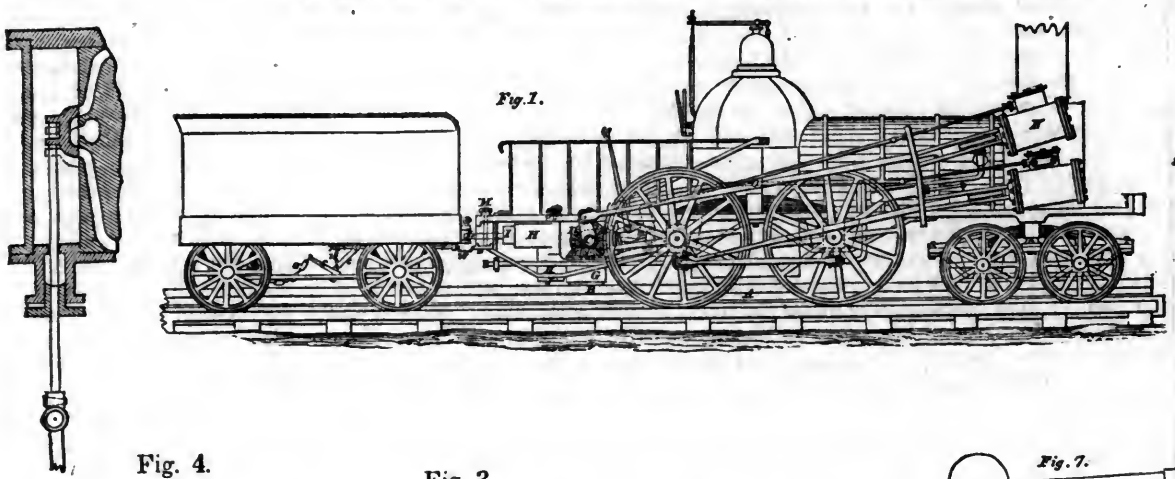
In order to ensure the gearing of the teeth of the wheels D, and E, into each other, precisely at the pitch line, plain surfaces are formed on them, as shown at *a*, *a*, which, coming into contract, produce this effect. They are kept in gear by means of a spiral spring K, which is coiled round the shaft C, and lying between the wheels D, presses them outwards, and keeps them in gear with the wheels E: whilst, at the same time, they are free to vibrate latterally, in a manner corresponding to the vibration of the levers on their fulcra J, J. To prevent the possibilty of the bevel wheels being forced out of gear, their tubular links which surround the shaft, C, C, should be so nearly in contract with each other as to prevent this taking place: no greater space being left between them than is necessary to allow for the unavoidable inequality in the thickness of the centre rail, or for the compression of the spring. L, is a sliding bar, provided with a slot, which receives the fulcra of the toggle joints I, and Il, and operates upon one or the other of them, according as the engine is ascending or decending the inclined plane, as will presently be understood.

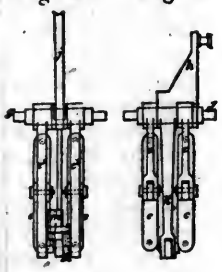
When the engine is running on the ordinary or level portion of the line, a bolt M, is passed through the frame of the engine, and through a corresponding hole in the slide L, for the purpose of retaining the slide in a fixed position. The toggle joints, it will be seen, are in reversed directions;—that marked I, being brought into operation when the train is ascending, and that marked Il, when it is descending. The slide L, is attatched by a shackle or other convenient means to the tender; and thus forms the connection between the locomotive engine and the train. When the locomotive has advanced to that part of the road where the central rail is situated, and the gripping rollers have received it between them, the bolt M, is to be removed, so as to bring the whole force of the draught on to the slide L; and, if the locomotive is ascending, the toggle I, will press the gripping wheels against the central rail; if descending a like effect will be produced by the toggle Il. The openings in the slide L, through which the connecting pins of the toggles pass, are elongated, to allow one or the other of them to be brought into action,

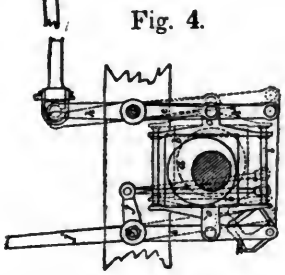
When it is wished to operate upon the gripping wheels, independently of the weight or resistance of the train, a lever may be affixed, so as to operate by hand on the slide L; but for this purpose the inventer prefers the mode shown dots in fig. 3. which consists in the application of a piston to the end of the slide L,—such piston working in a steam cylinder in connection with the boiler of the locomotive. P, is the steam cylinder the piston of which has a stroke of about five or six inches; and this cylinder is connected with the boiler by a tube Q. R, are the steam ways, furnished with a three way cock, by means of which, steam may be let into the cylinder, so as to operate on the piston at either end, and, consequently, on the toggles I, Il, either in ascending or descending. By this means, the gripping wheels are pressed against the rail, and held there by the elastic force of the steam; and are made to adjust themselves to its inequalities more perfectly than could be effected by a spring of steel or other material.

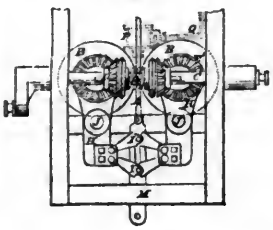
In order to apply the steam with the force

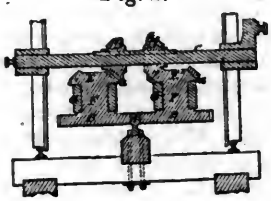
NEWTON'S IMPROVEMENTS IN LOCOMOTIVES FOR RAILWAYS.

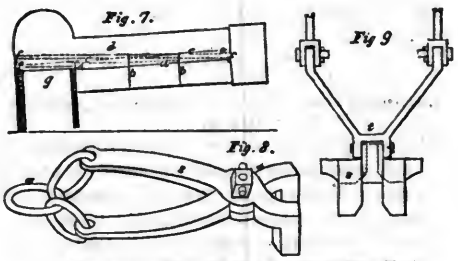












Engraved by Orr, 77 Nassau street, New York.

required for ascending the inclined plane, as proposed under the second head of the invention, an additional or second pair of steam cyl inders is employed; one of which cylinders is shown at N, (fig. 1.) The pistons of these cylinders are made to operate upon the shaft C, by means of the connecting rods O; and thus, through the wheels D, and E, communi cate rotary motions to the gripping wheels B. When the valves is drawn, which is to admit steam into the cylinders N, the engine will be held to the rails by the whole adhesive power due to the ordinary driving wheels, and to that of the gripping wheels; the latter of which will have their adhesive or biting power increased in direct proportion to the resistance or weight of the train. Should the train, in this case, be enable to advance with only one half of its ordinary speed, the quantity of steam expended will not be decreased, but will be used with its whole effective force.

At figs. 4, 5, and 6, an arrangement is shown for preventing the unequal motion of the slide valves of the steam cylinders, caused by the excentrics changing their relative position to the rocking shafts, by the rise and depression of the axle of driving wheels. It must have frequently been remarked by railway engineers, that when locomotives are running on an uneven or rough road, the exhaust was as irregular as the road, and of course the engine was not working with its full power; whereas, at such times, it should exert its full pull power, having more resistance to overcome than when running on an even track. To prevent this irregular work ing, the boxes which surround the valve excentrics are supported by, and made to slide respectively within, a frame or yoke, suspended from the framing of the engine by means of levers, in such manner that it always maintains the same relative position to the framing leaving the driving shaft, with its excentrics, etc., free to move up and down; while the excentric, in its revolutions, gives an uniform vibratory motion to the yoke, without regard to the position of the shaft. One of the levers by which the yoke is suspended is attached to the tail of the lever that moves the valve by means of the usual forked connection, transmitting the vibratory motion of the yoke to the valve lever or rocking shaft. The engine is reversed by the raising or falling of this forked lever between the excentrics, so as to connect either of the pair of yokes to the valve lever.

On referring to the drawing, the apparatus for working the valves will be seen in front view at fig. 4, and in edge views at figs. 5, and 6. *a*, is one of a pair of excentrics; *b*, the sliding box; *c*, *c*, the yoke or vibrating frame; *d*, the rocking shaft; *e*, *el*, are the suspension levers; *g*, is the shaft which carries the suspension lever *e*, and also the reversing lever; *h*, is the valve lever *hl*, the tail of the valve lever, jointed to the forked connecting lever *i*; and *j*, the reversing lever, connected by a pendant rod to the lever *i*. This rod, which connects the reversing lever to the forked lever *i*, must be of the same length as the tail of the valve lever, so that all the levers may describe the same arcs in vibrating. The forks *m*, *m*, are placed at opposite sides of the connecting lever *i*, so that as it is raised or lowered it may attach either of the excentrics to the valve lever, as may be required.

The third part of the invention, which refers to an improvement in the locomotive boiler, is intended to prevent the flues of the boiler from being partially uncovered, or raised above the water line, and exposed to the destructive heat of the fire, while the engine is ascending or descending heavy gradients. This object is accomplished by the application of a series of transverse vertical partitions to the cylindrical part of the boiler; which partitions are rivetted or otherwise attached to the onter casing of the boiler, and are of such a height as shall reach to the lowest water level of the boiler. The flues are made of copper or iron, drawn to an uniform size, and being passed through well bored joints in the partition plates, will render them sufficiently tight for all practical purposes. When the engine is ascending, the water is to be supplied to the boiler at the front end, and it will consequently run from one division to the next, keeping the flues covered with water when the engine is on such an inclination that, without this arrangement, the flues would be at one end out of the water, and exposed to the destructive heat of the fire. In descending, the boiler is to be supplied from the opposite end. This may be done by means of a branched pipe from the pump to each end of the boiler, provided with a valve or cock, so that the engineer can, at will, direct the water to either end.

If it should be preferred to give the engineer no control over this part of the apparatus (as a neglect to attend properly to it in ascending or descending a long and heavy gradient might be productive of serious consequences) a very simple self acting arrangement will be to have a portion of the injection pipe enlarged, for a short distance, on either side of its junction with the pump. This portion of the pipe must be placed horizontally or parallel with the boiler. Within this pipe is placed a ball valve, capable of running freely from

one end of the chimney to the other; so that in ascending, it falls to the lower end of the chamber, and consequently closes that branch of the injection pipe, and the water is delivered at the highest end of the boiler. In descending, a like effect is produced, and the water is supplied at the opposite end of the boiler. The distance between these partitions will depend upon the length of the boiler and the inclination to be overcome.

At fig. 7, a locomotive boiler, constructed after the improved plan, is shown in diagram. The line *a*, *a*, represents the upper surface of the top flues. The partitions are shown at *b*, *b*; their upper edges being even with the lower water line *c*, *c*; the highest water line is shown at *d*, *d*. The water being at the lowest water line, it is confined and prevented from running to the lower end by the partitions *b*, *b*; it will therefore lie as shown at *e*, *e*; whereas, if the divisions were not there, it would take the level, as shown at *f*, *f*, leaving the flues at *f*, uncovered, and liable to be burned. This danger would be greater in descending, as in that case, the top of the fire box *g*, *g*, would be exposed.—Where these partitions are used, there must be a blow off cock or foot valve between each division, to clear the boiler of sediment.

The fourth part of this invention relates to a self acting brake, which is intended to prevent accidents in the event of the breaking or separating of the links by which the respective parts of the train are connected together. This brake consists of a pair of jointed grippers, one of which is to be attached to each carriage, and held up clear of the centre rail by a chain, which is connected with the bolt of an additional link or attachment, and which when the main link that connects the carriages together is separated or broken, liberates the grippers and allows them to fall, so as to embrace the central rail upon which the gripping wheels of the locomotive operate.

In fig. 1, one of these brakes and its appurtenances are shown as attached to a tender carriage; and at figs. 8 and 9, it is represented on an enlarged scale. *s*, is a pair of gripping tongs, which are hung to the bottom of the carriage by a jointed link *t*, on which they are free to vibrate laterally to a short distance, but not so far as to prevent them from embracing the centre rail when they are allowed to fall upon it. *u*, is a chain, by which they are sustained so long as the ordinary connection of the carriages with the train remains perfect. *v*, is a rod, sliding thraugh staples, and at its inner end holding the chain *u*; its outer end being connected to the locomotive engine or carriage, as the case may be, by a chain *w*. Should the link of the train separate, the rod *v*, will be drawn forward out of connection with the chain *u*, and the gripping tongs will fall and embrace the centre rail. The shanks or longer arms of these gripping tongs are attached to a chain *x*, and this, at its opposite end, to a stancheon *y*, made fast to the bottom of the carriage.—By this arrangement the train will be kept from descending to a lower level of the road by the jaws of the gripping tongs biting the centre rail; which bite is produced by the draught of the carriage pulling on their longer arms as they begin to act at the moment of separation, and before the carriages have attained any considerable degree of downward motion, and have, therefore, scarcely any momentum to overcome.

It will be obvious, from the foregoing, that some part of this invention may be advantagenously employed without the others; and also that the arrangements above described admit of modification without departing from the nature of the invention; as, for example, the wheels may be made to grip the central rail by the gravitating force or resistance of the train, without the employment of the two toggles, by simply bending the ends of the two levers in which they turn, and connecting these levers with the train by the link; but the use of the two toggles is preferred for effecting the desired end.

The patentee claims with respect to the first head of the invention, the method of increasing the tractive power of the locomotive engine by the resistance or gravity of the train to be drawn thereby, by connecting such train with the driving wheels which grip the central rail, as described; also the connecting of the wheels that grip the central rail (and which act thereon as drivers) with the apparatus for producing an elastic pressure, as described: whereby the required adhesion can be obtained when the locomotive is ascending or descending an inclined plane, alone or without a train of carriages, or when, by accident or other cause, the resistance or gravity of the train cannot be employed for this purpose; he also claims the forming of the connection between the gripping wheels and the train by means of two toggle joints acting in opposite directions, and connected with the levers of the gripping wheels, whereby the train is made to act on the gripping wheels, either in ascending or descending inclined planes; and, further, he claims the connecting of the two gripping wheels with the frame of the locomotive, by means of the levers above described and shown in the drawing, whereby the locomotive is left free to vibrate between the track rails, while the gripping wheels are acting on the centre rail, thereby relieving the centre rail from being affected by the surging of the locomotive from side to side.

Under the second head of the invention he claims the application and use of the auxiliary pair of cylinders in connection with the driving shaft c; whereby the full and effective force of the steam may be employed when the engine is running at its reduced speed; he also claims mounting the boxes of the valve excentrics in a vibrating frame or yoke, connected to the frame of the locomotive engine, whereby the action of the excentrics may be communicated to the valves of the steam cylinders in a uniform manner without being affected by the rising and depression of the axle which carries the valve excentrics. Under the third head of the invention, he claims the application of cross partitions to the boilers of locomotive engines, for the purpose above described. And, lastly, under the fourth head, he claims the combining of the gripping tongs with a railroad carriage or carriages, by means of the arms of its levers, and by chains or jointed rods, as described; whereby the pull of the carriage on running down an inclined plane, in the event of the breaking of the connection with the locomotive engine or of the carriages with each other, will act on the tongs and cause them to grip the central rail.—[*Enrolled in the Petty Bag Office, January*, 1848.]

The editors of the *Eureka* say:—"The above closes the account of a very important American invention. From the heading of the article it will be seen that the description, with the accompanying very fine illustrations, is from the specification of the English patent. The inventor is Geo. E. Sellers, Esq., of Cincinnati, Ohio.

We have had the pleasure of witnessing some highly interesting and satisfactory experiments on a model railway, a portion of it being on an incline of 276 feet to the mile. Up this grade we saw a small locomotive, weighing about 1,300 lbs., ascend, drawing a train, which increased the weight to about two tons, with the greatest ease. Besides this, we saw all the various evolutions performed, which it is stated in the foregoing description as being capable of doing, viz:—stopping and starting the whole train *anywhere* on the inclined part of the track; disconnecting parts of the train in order to show the effect of the safety gripping apparatus, by immediately arresting the downward motion of the disconnected cars, and holding them firmly in a state of rest. All the other arrangements described were fully carried out, and to our apprehension, satisfactorily. We cannot but believe that this invention, once adopted, will be the means of introducing railroads in many places where they would otherwise never have existed, or at any rate, not for years to come. The way this is to be accomplished is by being able to go directly *over* hills, instead of being obliged to cut through, or go miles out of the direct way in order to avoid such obstructions.

Besides ourselves, there were present to witness the experiment, many of our most experienced railroad constructors and engineers, who did not hesitate to give it their hearty approval.

But one more thing is wanting, and that is a practical trial on some road where it would be daily used. The Erie railroad is probably in the best position to put it in operation; as they are passing through a country where they can choose all sorts of situations. Let one be chosen where a short and steep grade will pass over some obstruction, through which they design to go either by a tunnel or deep cut. A locomotive on this plan could carry up the train, the regular engine going alone. Such a trial, it is true, would tell only part of the story; but it would establish the fact of its utility, so far as to warrant its entire adoption. As the invention promises the saving of many thousands in the construction and working of any railroad through a rough country—so a *few* thousands ought to be spent by some company in bringing it about."

Report of the Utica and Schenectady Rail-Road Company.

The Utica and Schenectady railroad company, in compliance with a resolution of the honorable the Assembly of the State of New York, passed the 3d day of February, 1843, submit the following report for the year 1847: containing a statement of various matters required by said resolution, viz:

Length of road in operation, 78 miles.

Cost of construction to January, 1847,		$2,265,114 80
Expenses of construction of new heavy iron track in 1848		568,275 30
		2,833,380 10
Income from passengers as follows—		
140,952¼ first class through passengers		382,359 00
26,313 emigrant through passengers.		31,412 09
167,264¼ through passengers		413,771 09
99,269¼ way "		96,011 17
Total income from passengers		509,722 26
Income from freight		153,101 79
Y. S. mail		20,311 67
other sources		15,519 14
Total income for the year 1847		698,714 86
Expenses for repairing and running road		231,213 10
Lands, grading, buildings, engines & cars		220,195 09
Amount of dividends		160,000 00
Total expenses and dividends		614,438 19
Number of locomotive engines		19
An undivided interest in 55 8-wheeled passenger cars, 20 8-wheeled emigrant, 14 8-wheeled baggage, and 4 8-wheeled mail and baggage cars, owned by railroads between Albany and Rochester, in all		93
Eight wheeled freight cars	169	
Four " "	24	
		—193
Number of machine shops		1
horses		4
Average number of men employed		452
No. of miles run by passenger trains.		143,800
other trains		131,200
Total number of miles run		280,000

WM. C. YOUNG, Sup't and Eng.

TO CONTRACTORS.

SEALED proposals will be received at the office of the Lafayette and Indianapolis Railroad Co. in Lafayette, until the 11th day of October next, for the Grading, Masonry and Bridging of that part of said road lying between the summit south of Durkee's Run, near Lafayette, and Lebanon, in Boone county, about 34 miles. Also, for the wooden superstructure for the same, in a distinct bid.

Plans and specifications will be exhibited by the engineer. By order of the Board.

ALBERT S. WHITE, Pres't.

Lafayette, Aug. 17, 1848. 6t35

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS

OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.

September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS FOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

RAILROAD SCALES.—THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

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WROUGHT IRON TUBES

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TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
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Surviving partner of
STANCLIFFE & DRAPER.



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1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

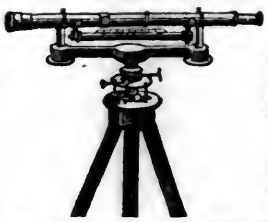
Albany Iron and Nail Works, Troy, N. Y.
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand. ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames.* and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich; Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

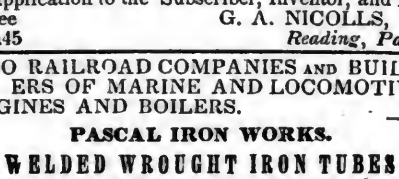
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.





Our improved Spark Arresters have been extensively used during the last year on both passenger & freigh engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

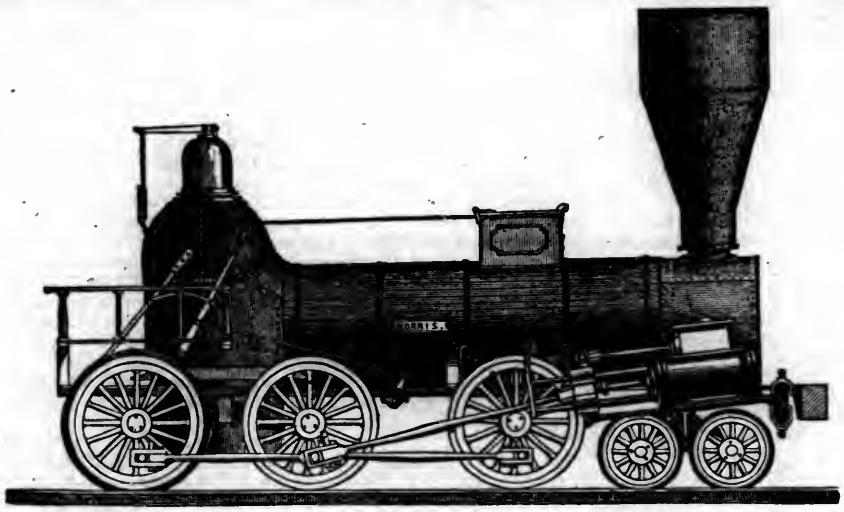
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

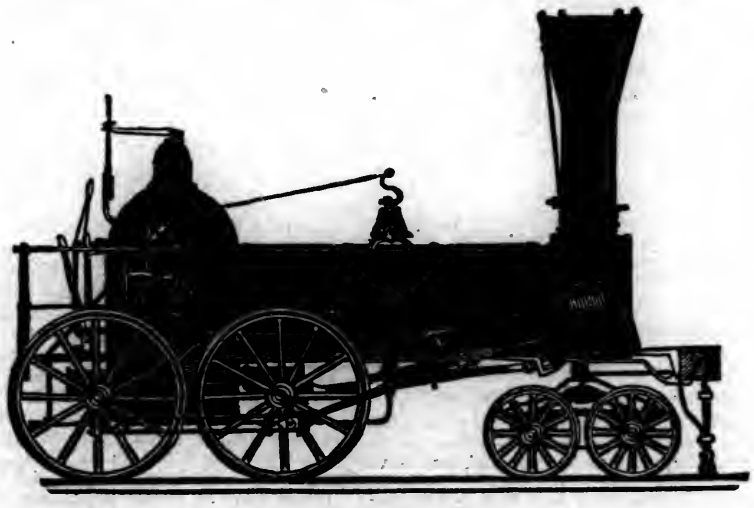
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25,1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger



trains will leave daily, Sun-



days excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller. New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1v

THE WESTERN AND ATLANTIC Railroad.

—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.



This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery.....	40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the


Trains will run as follows:


Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after

Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—


Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will precede each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.


Commencing July 3d, 1848.


Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.

For Great Falls at 7 a.m., 2½ and 4½ p.m.

For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.

For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.

For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.

From Great Falls at 6½ and 9½ a.m., and 4½ p.m.

From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.

From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.


A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6¼ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12¼ p.m. and 8 p.m.
Leaves York for Columbia at..1¼ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5¼ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7¼ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, conncting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5¼ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5¼ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAIL-Road. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6¼ and 10 a. m., and 4¼ p. m.
connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6¼ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.	N..7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.	6 P.M.
Going east.		**1st train.**	**2d train.**	**3d train.**
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, Jr.,
Secretary of the Convention.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WEST-ern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

Miles.
Savannah to Macon—Central Railroad 190
Macon to Atlanta—Macon and Western.....101
Atlanta to Oothcaloga—Western and Atlantic.. 80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....	0 20 pr. 100 lbs.	35
Crockery, per cubic foot.....	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....	1 25	1 50
Ploughs, (small,) and Wheelbarrows.....	0 80	1 05
Salt, per Liverpool Sack.....	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price,
Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10¼ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10¼ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield... 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

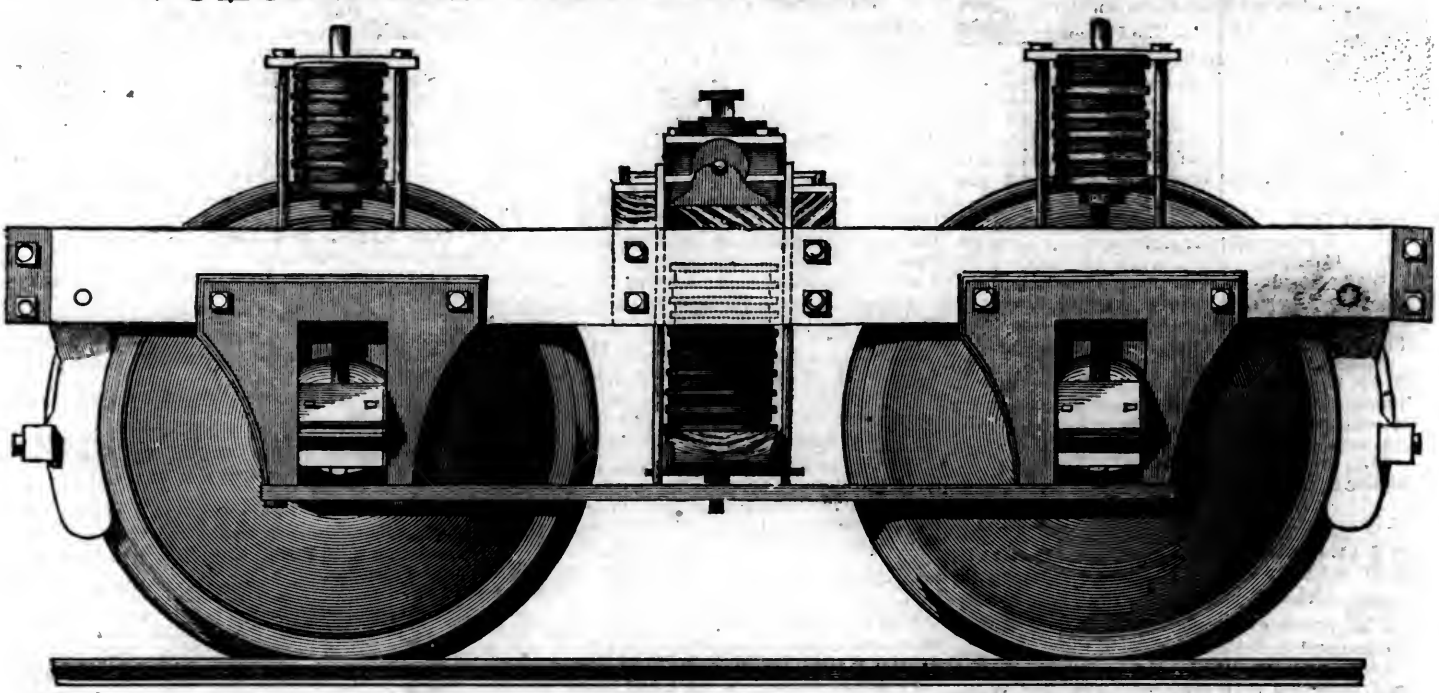
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company; on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

17tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Ruhber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 42] SATURDAY, OCTOBER 14, 1848. [WHOLE No. 653, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, October 14, 1848.

☞ REMOVAL.

The Office of this Journal is removed from the *Franklin House*, to No. **48** SOUTH THIRD STREET, *third door north* of the *Girard Bank*.

*** A *special request* is hereby made, to those to whom Circulars have been recently addressed, that they will respond promptly to them, as an important question—to *us* at least—is to be decided in accordance with the response given to the request made in those circulars.

JAMES LAURIE, *Civil Engineer.*
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.
October 14, 1848. 6m*

Norwich Car Manufactory.

We availed ourself, a few days since, when spending a few hours in Norwich, of the opportunity to ramble through the different shops of this establishment, *in cog*.

The position of the workshops, is along side of the Norwich and Worcester railroad, with a track into the main shop. The different shops are conveniently arranged, and well supplied with labor-saving machinery—with which, and good mechanics, and good management, the company ought to, and we feel assured will, as we saw good evidence, furnish good and durable cars, at fair prices; and we ask for them, of the numerous railroad companies, a fair share of business.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 30th ult., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Oct. 3.	7,203 17	186,566 19
By Room Run ....."	4,322 02	95,061 12
By Hazleton.....	2,354 00	70,812 00
By Beaver Meadow.....	2,899 16	64,638 05
By Buck Mountain.....	1,870 08	55,685 14
By Spring Mountain.....	1,299 15	51,625 19
By Cranberry Mines.....	301 00	10,850 00
White Haven.....	251 08	8,366 19
Diamond Co.....	566 15	3,469 18
Total.....	21,069 01	546,076 01

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 5th inst., and since the 1st of January, has been as follows—

	Tons
From Schuylkill Haven.....	10,386 05
" Pottsville	5,119 12
" Port Carbon.....	6,106 13
" Port Clinton.....	2,070 14
Total this week.....	24,562 17
Total this year.....	971,340 10

The amount of coal brought to market by the Schuylkill canal during the week ending the 5th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon.....	7,829 19
" Schuylkill Haven.....	4,875 10
" Port Clinton.....	733 05
Total this week.....	13,438 14
Total this year.....	337,071 14

Recapitulation.—Total Shipments this Season.

By Lehigh companies.....	546,066 06
By Reading railroad.....	971,340 10
By Schuylkill canal.....	337,071 14
Total	1,854,488 10

Railroads Beneficial to the Health of Cities.

It is the opinion of some physicians that the railroads have been highly beneficial to the public health in Boston, in consequence of the facilities they afford for a residence and excursions in the country. —We have not a doubt of the correctness of these views. They not only enable people, who are engaged in business in the city, to live in the country, but they furnish those who reside in cities with opportunities to take excursions and to have *better food*.

☞ It is said, and we can readily believe it, that the making of the Central railroad of Georgia, extending from Savannah to Macon, a distance of 190 miles, has doubled the value of the lands within 10 miles of the road throughout its whole extent.

Delaware and Hudson Canal and Railroad Company.

The New York Globe says that "this establishment employs over 3,000 men, and is one of the most successful companies in the United States.—The system and economy which is practiced by the company is above all praise. The men are liberally and most punctually paid. The railroad and the canal are in the best order; and the officers and men well instructed, industrious and peaceable, and what is important, contented. The mines extend a mile and a half in the mountains; the quantity of coal is inexhanstible, and the demand as yet greater than the supply. The amount delivered daily at Honesdale is from 2000 to 2100 tons, and it is expected next year to increase the amount 25 per cent."

There are those who recollect when this company was in "a tight place," but by good management they are now at the head of the list.

Camden and Amboy Railroad Company.

Its Privileges and its Abuses.

This subject has lost none of its claims upon our attention since the publication of the Address of the managers, which will be found entire in the Journal of August 5th, page 500, but has rather assumed a more interesting position since the recent publication of a very able REVIEW of that Address by "*A Citizen of Burlington.*"

The writer of that review has assumed a position which will arrest the attention, not only of the company, but also of the *people*, and the *legislature*, of New Jersey. His charges must now be met and refuted, or the people of the whole country will believe they are true. Neither the assumption of a dignified silence, nor the charge of improper influences upon the *few* individuals and editors who have spoken and written freely of their gross abuses, will now answer their purpose; nor will the running of *another six o'clock morning* train—even at *three dollars*, by the way of New Brunswick—which few people will ever take from choice—and those who arrive by the eastern and northern boats cannot if they would—save them from a weight of odium

which they will find it difficult to resist; and absence from our post alone has prevented that notice of the "Review," which its searching and fearless tone, and confident assertion, seem to demand from the press in general, but especially from the Railroad Journal.

In the first letter of this Review, the writer says: "This Address is like a performance of Hamlet, with the part of Hamlet omitted, by particular desire." "It is a defence of the railroad company, while the railroad is almost entirely kept out of view." He then gives what, in his opinion, under the circumstances, would have been a more suitable address to the people of New Jersey, but as it is rather *ironical* than argumentative, we pass over it to the more serious portions of the letter, which is in the following language, viz:

"The life of the company has been one of stock-gambling and fraud. Its 'sacrifices' have been of *conscience*. Its 'struggles' have been for power. Its 'patriotism' has smelt of the breeches pocket." He then proceeds to say that—

"Deeply as you may have been affected by the narration of sacrifices that have had no existence, you can scarcely have been less startled by the bold assertion of facts equally non-existent, of which I will select a few for comment.

"It is asserted that passengers go from Bordentown to Philadelphia in two hours, when the unhappy travellers by the company's boats know that the time is two hours and a half to three hours and a quarter, making an average of nearly three hours. It is asserted that to go from Newburgh to N. York, twice the distance, requires four hours, when it is well known that the average time is but three and a half, being scarcely more than the average here required for thirty miles, although the Newburgh boat makes numerous stoppages, some of which involves a heavy increase of distance, and loss of time.

"It is asserted that the farmer pays no more for his wheat, when every farmer and storekeeper knows that he had to pay double price within the last twelve months, and when the canal tariff for April last gave *four* cents for the toll on wheat where last year it was but *one*, and that tariff would be now in existance had not its infamy been exposed.

"It is asserted that the paper maker pays no more for his paper, when I myself heard the conductor tell the paper maker that the toll had been raised, and the latter assures me that he has paid the increased price.

"It is stated that 'for the accommodation of the peach trade special trains are run from the different stations on the road from Camden to Amboy,' when every peach grower knows that no such train has ever run, except from the peach orchards owned by the managers themselves. *Additional* trains have run when the business required them, but they have run at the same hours with the other market train, and yet these are called 'special' trains!

"It is asserted that 'the morning dew' would prevent the picking of peaches in season for the morning line, but it is not explained why the morning dew does not affect managers' peaches that go by that line.

"It is asserted that arrangements having been made with a person to send some peaches by the quick passenger line, 'others applied, and were accommodated,' but it is not stated that he was told that the passenger trains '*carried no freight*'—that the permission was granted by personal solicitation—that he was limited to twelve baskets as a particular favor to himself, '*not to be made general*,' while *whole car-loads* went by the same train from the orchards of these managers.

"It is asserted that a second line has sometimes been run on the route from Camden to Amboy, leaving either city at the most convenient hour in the middle of the day, when it is well known that no second line has ever been run on that route from the hour that these managers acquired the power to compel passengers to pay four dollars, and equally well known that it would not now run but for the application to congress to open a new post route through the State.

"Having by aid of careful examination detected a single assertion that is true, I feel bound to notice it. It is in the following words:

"'That the charges for freight are not unreasonable, is proved by the fact that fruits, vegetables and meats, in large quantities are constantly transported from Philadelphia to New York, pay the freight, and afford a profit to the dealers.'

"Such is the fact. The Jerseyman is not permitted to go to his great market, which is New York, and he is compelled to go to Philadelphia, a smaller market, already choked with the products of Delaware and Maryland. He is compelled to sell at what he can get, and his produce is purchased by dealers who are enriched at his cost. He is thus grounnd between the company on one hand, and the dealer on the other, as between the upper and the nether millstone, and he continues poor when he would grow rich if he could go himself to his great market.

"For what is not asserted or denied in this 'Address,' there is much reason to be thanktul. It is not asserted that the roads have double tracks, nor is it denied that the passengers are detained by hundreds on the greatest route of the Union, while trains go through the movements of a *quadrille* in endeavoring to pass each other. It is not asserted that the roads are in even decent condition, nor is it denied that bridges are dilapidated and dangerous. It is not asserted that passengers do not wait by hundreds, for half an hour, for want of an additional ferry boat, nor is it denied that sheep and hogs, and jackasses, and men, and women, dispute for standing room on board a miserable one that is frequently in use. For all these omissions, I am thankful, for it relieves me from the necessity for proving that such things are. Had they made these assertions or denials, I should not have been surprised, as the boldness of assertion throughout the 'Address,' is proof conclusive that they stick at nothing.

"So bold and unflinching are they, that I am somewhat surprised not to find it asserted that they were now complying with the demands of the State for a train from Camden through Trenton to New Brunswick. Had they done so, it would not have been a grosser departure from truth than is contained in each and every one of the previous assertions.—They have not complied with that requisition, and every Jerseyman is still taxed heavily in money and in time when he desires to visit the capital of his own State.

"The comparative statements in regard to charges for passage and freight are fraudulent and deceptive, but, as I propose to show that their accounts are no better, and as I am not disposed to allow my attention, or that of my fellow citizens, to be withdrawn from the examination of these accounts, I do not deem their tables worthy of the slightest notice.—They will, I doubt not, be reviewed by abler hands than mine. For the present, I shall confine myself to the examination of their accounts with the State, and with their stockholders, pledging myself, in the outset, to prove, by evidence of the HIGHEST authenticity, the following facts:

"1st. That the number of passengers has been far greater than has been reported for the payment of transit duty.

"2d. That the quantity of freight carried on the railroad has been far greater than the amount reported for transit duty.

"3d. That the quantity of freight carried on the canal has been far larger than has been reported for transit duty.

"4th. That the returns made to the treasurer's office have been false and fraudulent.

"5th. That the company or its managers are largely indebted to the State on that account.

"6th. That the quantity of passengers has greatly exceeded the number reported to the stockholders.

"7th. That the quantity of freight passing on the road has greatly exceeded that reported to the stockholders.

"8th. That the quantity of freight passing on the canal has so greatly exceeded that reported to the stockholders that a large portion of it has paid them neither freight, no toll nor transit duty.

"9th. That a large portion of the earnings of the machinery of the company has never reached the company's treasury.

"10th. That large sums which have reached that treasury have subsequently been abstracted therefrom.

"11th. That the accounts rendered to the stockholders have throughout been falsified to cover those abstractions.

"12th. That the statements furnished to the State directors were fabricated for that purpose, and cannot represent any state of things standing, or that should stand upon the company's books."

"Here"—as is justly said by that able and fearless paper, the *New York Dry Goods Reporter*, whose remarks we adopt and fully endorse—"is an array of charges, which, if true, should sink any corporation so low that 'the hand of resurrection shall never reach it,' as Mr. Hannegan once said in reference to the president. The accuser is well known to be a highly respectable and responsible man, and he pledges himself to the public to support every assertion by such evidence as would be held to be sufficient by any grand jury in Christendom.

"In the progress of his Review the writer presents from the various reports of the company and other sources the facts and figures to sustain the dark series of specifications quoted above, and we are free to confess that unfavorable as has been our opinion heretofore of the New Jersey monopoly, we were hardly prepared to believe that anything quite so gross and glaring existed as the Reviewer has exposed.

"What will strike every mind with peculiar force, is the frequency with which the company is made to convict itself from its own records at different times. It seems that in 1842, a period of commercial distress, when the stock of the company had fallen to 64, the directors made a report, with the view of preventing a depreciation of their stock.—The report covers the years 1840 and 1841. The following year another report was made. January, 1844, produced another. Last January they published an eight-years report, and it is between these reports that the discrepancy appears. Thus for example:

"The number of through passengers carried in 1840 and 1841, according to the two-years report, was 325,500. In the eight-years report the number is *razeed* to 306,989¼—thus dropping out nearly 19,000 passengers in two years.

"In 1843-4, according to the reports of those years, the number of passengers was 363,916¼. In the eight-years report the number is 57,000 less, or 306,598 1-12—and so of other years we find like discrepancies. One set of reports, of which a small number only were made, being designed to raise the stock, the eight-years report being for the State, and the transit duties being paid according to the lower estimate.

"The amount of ten cents a passenger due the State on the passengers dropped out of the 8-years report would be (with interest added) $86,112, and even this the Reviewer believes is far below the truth. A similar glaring discrepancy between the little reports, as the Reviewer calls them, and the eight-years report, exists as to merchandise transportation.

"In 1841, according to the little report, the through transportation was 14,226 tons. But in the eight-years report it was only 13,200. Here are 1026 tons cut out, which must have paid at least $12,000.

"In the little report of 1844, the through merchandise of 1843 was 25,508 tons. In the report of 1848 it is cut down to 19,511, or 5987 tons less, the freight on which must have been at least $71,000.

"These few instances are taken at random from the review, which the writer tenders to the Attorney General of New Jersey and demands an investigation."

"We do not, says the Reporter, undertake to de-

cide upon the justice or injustice of the accusations brought by the Reviewer, but this we may safely and confidently say, that no corporation having the least regard for its reputation can suffer such a fearful array of charges, involving, as they do the integrity of their managers for years, to be made without demanding an investigation. The Review charges perjury and fraud of the grossest kind. If false the author should be brought to justice. If true, the company should be exposed to the scorn and contempt of the public, and stripped of their corporate privileges."

Investigation of his charges appears to be coveted by the writer of the pamphlet, and the Review, as he says, in his last letter, page 80—

"If, however, they should really think that they have cause to complain of what I have said, it will afford me pleasure to meet them before three honest intelligent independent men, with their books and papers; and if I do not then prove all that I have asserted, I will consent to be branded as a libeller, and will sumbit to any penalty that may be awarded, confessing judgment on the instant. All this can be done in a single week from the day of the publication of these letters, and thus reparation will follow closely on the heels of wrong."

And he reiterates the challenge, in another letter, dated October 2d, and published in the Burlington Gazette of the 6th inst., and it cannot well be refused—therefore we may look for a thorough investigation, by able and disinterested men, chosen, *not* by the company alone, but as such a commission should be chosen, by the accused and the accuser, and the *umpire* by those selected by the parties, thus preventing the possibility of its assuming the character of a white-washing committee.

That our readers may understand the character, and extent, of the alleged mismanagement of this company, we shall re-publish largely from this Review, and, of course, give entire any report that may be made by a properly constituted commission, or committee of investigation.

We shall also endeavor to show to the company, and to the people of New Jersey, that their *interest* will be largely promoted by the adoption of rates, both of *fare* and *freight*, more in accordance with those paid on well managed railroads in this country.

That "truth is mighty and will prevail," ultimately, in this, as in other important principles, we have not a doubt: and we have renewed evidence of this in the increasing attention, and decided tone of a portion of the press; and those who have long battled, almost single handed, against this oppressive monopoly, congratulate the cause and those "enlisted for the war," on the accession to their ranks of another able ally in the "Home Journal," in the last number of which we find an exceedingly well-written and just article, in the right spirit and tone, from which we shall make some extracts for our next number.

Life Boats for Ships and Steamers.

It is only a few years, comparatively speaking, since the "*life boat*"—or an improved boat, which, though filled with water, or stove, still floats, and will sustain several persons—was first introduced in this country: and, if we recollect, *Mr. Joseph Francis*, of New York, was the first to introduce them into general use, upon the packets, and steamboats, out of the port of New York—and into the United States navy. They were first constructed of wood, as were all other boats then in use; but more recently, in this department of useful industry, as in many others, metal—*iron* or *copper*—has been found not only more *durable* and *safe*, but also more *economical*. After devoting years of labor, and thought, to the perfection of boats constructed of wood, Mr. Frances turned his attention to the construction of copper and iron boats, which he found every way preferable to those made of wood; and so evidently were they superior to those made of wood, not only in point of durability and economy, but also in being *always ready for use*, no matter how long they had been exposed to a tropical sun, that he found ready supporters and associates in those enterprising and eminently useful gentlemen, Messrs. Stillman, Allen & Co., of the Novelty Works, New York—who have, at a large outlay of capital, prepared to construct these boats in the most substantial manner.

The mode of construction is by placing large sheets of copper, or galvanised iron, between two dies, of immense weight—some of which weigh 12 tons—the inner surface of which are cast in an *uneven*, or corrugated form, which gives the boat the ordinary appearance of wood, over-lapping, or of clap boards on a house. By this arrangement, the sheet of metal is brought into the shape of *one side* of the bow, or stern, of a boat, and *four* of them rivetted together makes a boat. In order to bring the sheet of metal to the desired shape, *six* or *eight hundred tons* pressure are required to be applied to the dies, which is done by hydraulic pressure, by which the lower die is elevated, and brought in contact with its fellow, and thus giving shape to the sheet of metal between them.

To the "life boat" has many a person been indebted for life—and therefore it is that we feel called upon to do what we can to make known the value of an article so important to the safety of those who travel by water—and to direct the attention of those who *ought* to use them to the "Novelty Works"—Messrs. Stillman, Allen & Co.—New York.

The following testimonals, from gentlemen abundantly competent to judged, may be useful to those who cannot make personal examination of the boats. We cannot speak of their comparative cost with other boats—but are of the opinion that it does not differ materially from the ordinary price of wooden boats of a similar size. Nothing that we can say will add to the following testimonials.

—

Steam Ship Hermann, June 19, 1848.

Messrs. Stillman, Allen & Co.,

Having had favorable opportunities of judging of the comparative merits of boats made of wood and those made of galvanised iron, I take great pleasure in testifying most decidedly in favor of the iron boats. During the tremenous gale encountered by the steam ship Hermann, on the 24th March last, her two quarter boats on the larboard side were *blown up over the davits* several times, before we could get them in upon the deck and secure them. This was done at length, with much difficulty, and with very little damage. Had the boats been of wood, I think they would have been destroyed.

I was present when the stern boat of the steamer Washington came in contact with a post at the Novelty works dock. She was twisted by the pressure at least two feet, and very much crushed. She was repaired, I am informed, at small expense, and now looks as well as ever. A wooden boat would have been destroyed entirely if subjected to the same pressure.

The metalic boat is always tight and ready for use, and with little attention will last any length of time.

Yours respectfully, E. Crabtree,
Captain of Steam Ship Hermann.

Steam Ship Crescent City, Aug. 1, 1848.

I have now on board the Crescent City, Frances' patent metalic life boats, which I consider the best and most durable boats that can be made.

C. Stoddard,
Captain Steam Ship Crescent City.

—

Steam Ship Northerner, Aug. 22, 1848.

Messrs. Stillman, Allen & Co.,

Gentlemen:—Having furnished the Northerner with five of Francis' patent galvanised iron life boats I am pleased to say they have given me perfect satisfaction.

They cannot become nail *sick*, *wormealen* or water soaked. They cannot leak, however much exposed to the hottest sun, and are of course *always ready for use in cases of immergency*.

As to economy, as there is no expense to keep them in repair, they are decidedly preferable, and being always ready for use, are invaluable for preserving life.

For all the necessary qualities requisite for ship boats, such as durability, capacity, and safety, they are far superior to any wooden boat.

Thos. S. Budd, Capt.

—

Steam Ship Falcon, Sept. 1, 1848.

Messrs. Stillman, Allen & Co.,

Gentlemen—Francis' patent Galvanised iron life boats are now in use on board the "Falcon," and they have given me such entire satisfaction that I have ordered another set of the same kind.

I consider the metalic boat far superior to the wooden one in point of safety, economy and strength—and particularly adapted to warm climates.

Yours, etc., James M. Low.

—

Extract from a Report by Capt. Thomas Brownell, U. S. Navy, Jacob Wentworth, firm of Wentworth & Macky, John H. Rhodes, Naval Constructor.

"The superior advantages these boats present to our minds over all others are, 1st, their endurance under severe trials, it being almost impossible to meet with sufficient injury to disable them from sustaining their compliment of persons for any length of time. 2d. Their extreme lightness united with great strength. 3d. Their inability to become nail-sick, or worm eaten, or leaky from exposure to the sun, however long they may be out of the water.—4th. These life boats may be used when nothing else can preserve life, or for the daily duty of the ship, being at all times prepared for either service."

—

The official report to the navy department, of Lieut. Lynch, commanding the "Dead Sea Expedition," says that but for the "two metalic boats," the expedition would have been a *total failure*, as no wooden boat could have stood such hard service.

Extract from his letter published in the New York Herald Sept. 15, 1848:

"And in their march to lake Tiberias, their boats had to be transported over the most formidable mountain gorges and heights, and to be lowered down precipices with ropes.

"The navigation of the river Jordon was found to be most difficult and dangerous from its frequent and fearful rapids.

"Lieut. Lynch and his party plunged down no less than twenty-seven thteatening rapids, besides many others of less descent.

"The party circumnavigated the lake (or Dead sea), returned to their place of departure, and brought back their boats in good order as they were received in New York."

These two boats, after being draged over mountains and rocks, were two months on the Dead sea —the water of which is so salt as to be black and bitter.

The following ships, we are informed, have these boats in use, viz:—the Washington, Southerner, Hermann, Northerner, Crescent City, Falcon, Isabella, New Grenada, Magdelena, etc.

The following steamboats also have them:—the C. Vanderbilt, Connecticut, Massachusetts, Commodore, State of Maine, Admiral, Governor, Oregon, Hendrik Hudson, Confidence, G. W. Coffee, Splendid, etc., with many steamers on lakes Erie, Ontaria and Ponchartrain.

With such testimonials in their favor every steamboat, and every ship going to sea, should have one or more of these boats.

Report of the Syracuse and Utica Railroad Company.

The Syracuse and Utica railroad company, in pursuance of a resolution of the honorable the Assembly, adopted February 2, 1843, submits the accompanying tabular statement of the several matters required by that resolution.

During the past season the company has been engaged in laying down an iron rail of 61 pounds to the yard, in place of the flat bar heretofore used. This work has progressed as fast as the iron could be obtained There is now laid down and in use about 23 miles of new track. The iron necessary to complete a single track with suitable turnouts has been contracted, and most of the last half of it is now rolled. This is made in the State of Pennsylvania, and the whole will be received as soon as it can be transported in the spring.

Under the law which requires an iron rail to be laid upon this line of road, this company has proceeded with the intention of completing the same as early as practicable the ensuing season. It requires 5,000 tons for a single track. One half of this was contracted and made at Trenton, in New Jersey, at a cost delivered in Utica of something over $74 per ton. The last half, contracted a year later, will cost at Utica about $69 per ton.—These contracts were made at the most favorable prices at the time.

The exigency of the law referred to, and an earnest wish to meet the public expectation in respect to a new track, required the prompt purchase of the iron, although the prospect of a great deduction in the price was very clear. That reduction has now taken place, and English rails delivered in New York have been recently contracted at $52 50, whereas we paid 70 25 at Trenton, in New Jersey, for 2,500 tons, and we are now paying 67 75 per ton in New York for a like quantity, thus making a difference in the cost of the whole iron over the present price of English rails not less than $75,000, which this company has paid and assumed to pay. That part of this line that shall hereafter provide the iron rails, will have at least this difference in their favor upon an equal quantity of iron.

It is the intention of the company to proceed immediately to lay another track as soon as the first shall have been brought into use; for experience has shown that a double track is necessary to conduct a large business safely.

In preparing for the transportation of property, it was deemed necessary to add a large increase to the stock of freight cars and engines. This addition will cost about 100,000 dollars, and it remains to be seen whether much property can be carried, and whether we have not an ample outfit for that object. Thus far the present winter there has been no accumulation of property offering to be carried beyond our means of transportation.

The tolls imposed upon this line are a serious check to the business of transportation, and while they are maintained it will not be increased to any considerable extent, as it cannot be expected that the company will pay the tolls without charging them upon the property carried.

The following table shows the whole receipts of the company from all sources, and the expenses and disbursements actually paid each year:

STATEMENT

Of the receipts and expenditures of the Syracuse and Utica Railroad Company for the years 1839 to 1842 inclusive.

	EXPENSES.			RECEIPTS.					
	Transportation.	Construction.	Total.	Passengers.	Freight.	Mail.	Miscellaneous.	Total.	Net gain over all expenses.
1839	$34,438 02	$25,393 45	$59,831 47	$122,185 29	$1,639 29	$11,350 47	$3,276 16	$122,185 29	$62,353 82
1840	66,526 65	44,285 71	110,812 36	178,509 57	1,639 29	11,350 47	3,276 16	194,872 49	84,060 13
1841	66,696 23	42,928 00	109,624 23	190,829 32	2,341 16	5,317 63	1,025 62	199,513 73	89,889 51
1842	59,970 50	38,896 94	98,867 44	155,221 95	1,630 01	9,375 00	3,315 31	169,435 27	70,567 83
1843	66,796 44	7,413 31	74,209 75	147,353 40	2,119 82	11,598 75	2,714 11	163,786 08	69,576 33
1844	80,824 53	35,678 42	116,502 95	181,647 34	3,457 09	6,956 25	2,630 74	194,691 42	78,178 47
1845	140,294 59	975 00	141,269 59	182,484 78	12,947 50	6,956 25	1,951 70	204,340 23	63,070 64
1846	159,078 33	12,112 73	171,191 06	229,708 56	19,623 50	6,269 75	2,015 41	257,637 22	86,446 16
1847	421,492 01	*3,691 44	425,133 95	285,941 61	52,494 46	7,950 00	160,793 84	507,179 91	82,045 96
	1,096,117 29	211,325 50	1,307,442 79	1,673,884 82	96,236 83	65,694 10	177,812 89	2,013,631 64	706,188 85

* For land

Tabular statement relative to the Syracuse and Utica railroad company, made to the secretary of state, agreeably to a resolution of the assembly, passed Feb. 2, 1843, showing the business of the road for 1847:

Length of road, 53 miles.	
Cost of construction to January, 1848,	$1,132,582 18
Less amount charged to depreciation of property for reduced value of engines, cars, etc	30,000 00
	1,102,582 18
Received from 110,290¼ through passengers	220,581 00
Received from 24,709 emigrants	19,767 20
Received from 63,512½ way passengers	45,593 41
	285,941 61
Received for transportation of freight.	52,494 46
" " " U. S. mail.	7,950 00
" from miscellaneous sources.	3,793 84
" loan contracted on bonds	80,000 00
" 1st and 2nd instalments on new stock	77,000 00
Expended for repairing, operating and running the road, including interest paid	124,631 96
Amount paid for new track	248,115 66
" permanent fixtures	6,150 68
" new cars	36,383 68
" new engines	6,210 03
	421,492 01
Expended on account of construction for land, included above	3,641 94
Dividend paid February 15	40,000 00
" August 15	40,000 00
Number of locomotives	12
An undivided interest in 53 8 wheel passenger cars.	
" " 20 " emigrant "	
owned by the railroads between Albany and Rochester, and	
An undivided interest in 23 8-wheel baggage cars.	
" " 6 " " and mail cars, owned by railroads between Albany and Buffalo.	
Number of freight cars, etc	143
" passenger cars	9
" machine shops	2
Average number of men employed by the co	250
Number of miles run by passenger trains	105,000
" " freight and other trains	55,000
Total miles	160,000

JOHN WILKINSON, Pres't.

Senate Report on the Difficulties between the Postmaster General and the Railways.

The following report of Mr. Pearce in the United States Senate, was prepared for press several weeks ago, and unintentionally delayed. We wish it could be read by every voter in the country before the election, that they might vote for the *removal* of the postmaster general at the same time that they vote for *Gen. Cass, Gen. Taylor*, or *Mr. Van Buren*. It gives the true state of the case—and it is to be hoped that a remedy will be applied to the evil.

THE SOUTHERN MAIL ROUTE.

IN SENATE, JUNE 8, 1848.

Mr. Pearce, of Maryland, made the following report:

The Committee on the Postoffice and Post Roads, to whom was referred the resolution of the Senate, directing them to inquire whether any and what legislation is necessary to secure the more regular and speedy transmission of the great northern and southern mail, report:

That for several years past, prior to December last, the great southern mail was carried from Washington to Richmond, Virginia, by steamboats, on the Potomac river, to Aquia creek, and thence by railroad; that the service was well and regularly performed, and

the route better, quicker, more regular and satisfactory than any other between the same points. The cost of this route from 1843 down to July last was $32,252 per annum, and its length 131 miles. The postmaster general being unwilling to renew the contract on the same terms, this route, after much unsuccessful negotiation, was discontinued in December last, and the longer, slower, less certain and satisfactory route, in steamboats, from Baltimore, via Norfolk and City Point, to Petersburg and Richmond has been adopted. The length of this route is 350 miles, and the compensation $34,000 per annum. Besides this alteration of the principal route, several changes have been made for the local supply, which were necessarily consequent upon the transfer of the great mail. Thus the local mail between Washington and Richmond is now carried in two horse wagons, in double the time required by the railroad and steamboat company, at a cost of $13,000 per annum; nearly one half the whole sum paid to the said company for the transportation of the great southern and local mails.

On the other hand, the contract for the local supply between Baltimore and Norfolk has been discontinued. This amounted to $9,200 per annum. After making due allowance, however, for all the reductions and additions occasioned by the change of route, it appears that the old service was cheapest, best, most regular, much quicker, more convenient to the public generally, and even more advantageous to the department itself. The comparative cost of the two routes, and their adjuncts, as set forth in various letters from the postoffice department to the committee of the House of Representatives and the Senate, may be thus stated. Cost of new route:

From Baltimore, in steamboats, via Norfolk and City Point, to Richmond, supplying Petersburg also,	$34,000
Local mail from Washington to Richmond, in two horse wagons,	13,000
Local mail from Richmond to Petersburg, in wagons,	1,950
	$48,950

Additional service for the supply of small offices, near the present coach line between Richmond and Washington, increase this sum to $49,407 50.

To this must be added the cost not yet ascertained (or agreed upon with the contractors) of taking the mails from the steamboat landings at Richmond and Petersburg.

The cost of the old route and service was, in all, $47,575 48; the details of which, as stated by the postmaster general, are as follows:

Route between Baltimore, Norfolk and Richmond,	$9,200 00
Railroad and steamboat line from Washington to Richmond,	32,252 00
Railroad ronte from Richmond to Petersburg,	5,818 48
Horse routes, now discontinued,	305 00
	$47,575 00

Difference in favor of the old route and service per annum, besides the unascertained sum before mentioned, $1,466 02.

The postmaster general, in his letter to the postoffice committee of the House of Representatives, dated December 20, 1847, claimed a difference in favor of the new route and service of $575 48 per annum. In his letter of the 23d May, 1848, to the postoffice committee of the Senate, he says that this was true at the time, and that the change in the statement is owing to the necessity of providing for the transportation in wagons of the local mail between Richmond and Petersburg—a measure adopted by the department since December last.

The present route is thus shown to be more expensive than the old one; and the committee have abundant evidence that it is by no means so efficient.

For example, the great southern and northern mail which leaves Richmond at 6 a.m. is not received in Baltimore till 8 a.m., the following day, if the trip be performed in schedule time; and letters by it to Washington arrive at 11 a.m—29 hours. Whereas, by the old route, the mail from Richmond reached Washington the same day about 4 o'clock, and went on north, through Baltimore, without delay. Thus there is always between Washington and Richmond a delay of 17 or 18 hours, and sometimes much more, in going north; and in the reverse direction an equal or greater delay; while a letter for the south mailed at Washington in the evening, goes to Baltimore by the morning train of cars, and must remain till 11 p.m. the same day, before it can start thence for the south. These delays are very vexatious, and have given rise to great and just complaints.

It may also be safely assumed that the revenues of the department suffer, and, under the present arrangement, must continue to suffer certain and unavoidable loss by the private conveyance of mailable matter. All these delays and evils are the result of a change of route, and their correction seems to be equally demanded by public opinion and public interest. The manifest remedy is the restoration of the mail to the old route. But this the postmaster general will not do, because he declares himself without legal authority to do so, upon the terms demanded by the railroad and steamboat company. He thinks himself prohibited, by the acts of congress and the previous decisions of his department, from contracting with the Virginia steamboat and railroad company on the same terms as heretofore.

The sum of $32,252, heretofore paid the company, was made up of $12,752 for the steamboat service on fifty four miles of the route, and $19,500 for the service over the railroad, 76 miles long. In March, 1847, the postoffice department notified the company that these rates, which had been paid to the company since 1842 and 1843, could not be allowed after July of that year; though the company continued without contract to carry the mail till December last.

The legislation of congress, in relation to mail contracts with railroad and steamboat lines, may be found in the acts of July 7, '38, January 25, '39, and March 3, '45; vide pages 238, 585, and 739, of 5th vol. Laws U. S., by Little & Brown.

The second section of the first named act, declares all railroads to be post routes, and requires the transportation of the mail thereon; provided the postmaster general "can have it done on reasonable terms, and not paying therefor, in any instance, more than 25 per cent. over and above what similar transportatiou would cost in post coaches."

The act of 1839 prohibits the postmaster general from allowing, under the second section of the act of 1838, above quoted, "more than $300 per mile per annum to any railroad company in the United States for the conveyance of one or more daily mails upon their roads; provided that nothing in this act contained shall be construed so as in any way to remove and impair the limitations upon the power of the postmaster general imposed by that section."

The act of 1845 directs the postmaster general to classify the railroad routes, and provides that no higher compensation than that now allowed by law shall be paid for the conveyanee of the mail on any railroad or railroad and steamboat line of the first class, etc.

Under these laws, the postmaster general considered himself prohibited from paying to the Virginia railroad and steamboat company more than $237 50 per mile per annum for transporting the mail on their road.

One of his predecessors arrived at this result thus: the act of 1838 limited the compensation to 25 per cent. advance on the cost of similar transportation in postcoaches; and the postmaster general says that $190 per mile was the highest compensation then paid to any coach line in the United States for transporting the mail. To this sum he added 25 per cent., and the result was $237 50, which he considered the maximum allowance authorised by law for one daily mail.

This seems to the committee an arbitrary rule. It does not follow that because the highest price now paid for transportation of the mail in coaches is $190 per mile, that the great southern mail should be transported between Richmond and Washington, in post coaches at that rate; and the similar transportation in post coaches, contemplated by the law, cannot mean such service between other points and on other routes, and must signify that between the same points or termini. Now, it is not pretended that the post master general could have the great mail transported between Washington and Richmond, in post coaches, at $190 per mile.—On the contrary, the only offer recently made to carry the great mail between these points, in *four horse vehicles*, constructed for the purpose, was for the sum of $128,000 per ann.; which, as the route is 121 miles long, would give about $232 per mile per annum; and 25 per cent. added to that would exceed considerably the amount demanded by the company.

Nor can this demand of $28,000 per annum for transportation of the great mail, in four horse vehicles, over this route, be con-

sidered exorbitant. The department now pays $13,000 per annum for the conveyance of the local mails on the same route, in two horse wagons; and the size and weight of the great mail is much more than double that of the local mail. An examination as to this, in the month of June, 1847, showed the average weight of the mails going south to be 3,000 pounds. The largest mail during that time was 5,200 lbs. During the session of congress it would, of course, be much heavier.

Upon the whole, therefore, it is very clear to the committee, that the postmaster general was not restricted by a proper construction of the law, to $337 50 per mile, which was his offer to the Virginia company. And, though they give him credit for a vigilant watch over the interests of the department, and are sensible how easily incorporated companies, as well as individuals, may be induced to demand of the government more than a service is really worth, they must think that he would have consulted the requirement of the law, the economy of the public money, and the efficiency of the mail service, by renewing the contract with the company for the same sum as that which he had been paying for more than two years after he came into office.

In relation to the steamboat part of the route, the postmaster general assumed that there was a distinction between that and the railroad part, and that he could not properly allow for the former what he offered for the latter. He insisted upon deducting 12½ per cent. from the mile price of the railroad part of the route, making in all about $1,500 less for this part of the route.

In this the committee see no legal reason. Neither the act of 1838, nor any other act make such or any other distinction. The act contemplates three classes of railroad routes, "including those in which the service is partly by railroad and partly by steamboats;" and the postmaster is directed to classify them "according to the size of the mails, the speed with which they are conveyed, and the importance of the service." The postmaster general himself considers this as a first class route, as it certainly is. The company is subject to unusual difficulties and expenses on this part of the route, which, indeed, seem to be recognised by the legislation of congress.

In 1842 congress passed a resolution authorising the postmaster general to extend the contract for the conveyance of the mail on the Potomac for four years from the termination of the then contract, in such a way as to receive the regular transmission of the mail by means of ice boats, etc. The price of that contract was $12,572 per annum, as before stated, which is less than the postmaster general's maximum railroad price. In the performance of their service on this part of the route the company have been obliged to keep two instead of one ice boat always in readiness for use. These boats have been procured at great expense, and have been very successful in keeping the navigation of the Potomac open during the hard weather of winter. One of these boats was cut thro' and sunk in the winter of 1845–6, while in the performance of this service—a circumstance which shows how much greater the expense of this part of the route must be in winter, since such are its hazzards.

The only difficulty in restoring the contract to the old route arises from the fact that the usual agreement has not been made for the discontinuance of the new contract. But to this may be replied that no contract has yet been *executed* by the parties, although one has been prepared for that purpose.

From Baltimore to Norfolk the service is performed by the Baltimore steam packet company, and this company is quite willing to relinquish its part of the service, without any claim for damages, as appears by the letter of their agent, appended to this report, if the carrying of the mail be restored to the railroad company. The residue, or river part of the present service, is performed by Mr. R A. Mayo, whose pay for this part of the route is $6,000 per annum. He is understood to be unwilling to relinquish his part of the contract without damages, though it is not believed to be at all profitable.

The committee suppose that, at the most, and under any circumstances, he could not suffer any loss by the discontinuance of his contract, which would be equal to the increased expense of the present route over the former one.

They therefore propose to leave the question of indemnity to him to the future action of congress, and they report a resolution providing for the restoration of the mail to the route which public economy and the public interests indicate as every way the best and most efficient.

BALTIMORE, APRIL 28, 1848.

DEAR SIR: I am directed by our board, in reply to yours of yesterday, to state that the Baltimore steam packet company were induced to contract for the transportation of the mail between Baltimore and Norfolk at the price paid them, $28,000, from the apprehension that, unless the contract was taken by them, it might be by other parties who would run an opposition line for passengers between the above points. We would willingly give up the contract, and make no claim for damages, if it is the pleasure of congress to transfer the contract for the mail to the railroad and steamboat line between Washington and Richmond: but, having incurred a heavy loss and expense, so far, to meet the views of the department, would not be willing to give up the contract except for the object stated.

With great respect, your obedient servant,

M. N. FALLS,

Agent Baltimore Steam Packet Co.

To Hon. J. A. PEARCE,

U. S. Senate, Washington.

Note, by the Editors of the National Intelligencer.

We have been requested to state that the difference in favor of the old line is $4,000, instead of $1,600; and that the Bay Line starts at 4 P. M., instead of 11 o'clock, A.M., which causes a detention of the mail at Baltimore twenty one hours.

The Plough, the Loom and the Anvil.

AGRICULTURE AND MANUFACTURES.

We recently copied, from this valuable periodical, an able article on the "Iron Trade of the Union." We now take, from the National Intelligencer, an article made up from the 3d number of the work, which gives some striking and interesting facts, which ought to be widely circulated—and therefore we give them a place in the Journal, that we may do our part in aid of so good a *cause*, and so valuable a work; and also to show the estimation in which the labors of Mr. Skinner are held by such sterling men as the editors of the National Intelligencer.

They say: "We have received and run over with great interest, the 3d number of the periodical entitled "*The Plough, the Loom and the Anvil*," edited by J. S. Skinner & Son, published at Philadelphia, and to be had of all the principal booksellers and news agents throughout the Union. We wish that we had room for transferring to our columns either of its leading longer articles on Agricultural Schools, on the Iron Trade of the Union, on the art of Butchering, on Maryland Farming, and on Wheat Culture. Deprived of the means of extending the publicity of these, by the pressure of other matters, we have made up from this valuable monthly publication a column of shorter articles, which we hope will be acceptable to our rural readers, and to those of our city readers who have rural tastes:"

From The Plough, the Loom and the Anvil.

What is Needed to Give to the Farmer and Planter of the United States the Markets of England.

In our last number, page 75, we pointed out to our agricultural readers the mode by which they could secure themselves the great market of England for their grain and flour. We now invite their attention to the following letter from an American gentleman, writing from London under date of July 6th. He says:

"The crop of wheat here, it is thought, will not exceed the usual average; but of potatoes, the yield promises to be very abundant, and the prospect for them and for grain is also very good on the continent. I have no doubt, however, that after February next, when the duty ceases, this country will be a constant customer to us for wheat and flour, though the extent of it will be governed by the prices with us; and in ordinary seasons it probably will not be taken to any considerable extent at over $4 50 and $5 per bbl."

Let the price of flour be reduced to $4 50 per barrel, and large quantities will be taken, *unless the price should fall so low in England that it will not be taken at more than* $3 50. To accomplish this object, nothing is needed but to convert our consumers of food into producers of food, by repealing the present inefficient tariff, and thus depriving the farmer of his present protection. Food will then be low enough for export to England, and then the planter will raise less food and more cotton, and cotton will be so cheap in England as effectually to do away with the East India competition. What, then, however, will be the condition of the planter?—What will be the value of his land? What that of his hands? Will he then be able to live better or worse? Will he feed, or clothe and lodge his hands better or worse? Let him answer the question to himself, and in

doing so, let him for once forget party—if he can. If he will do this, he will say to himself that throughout the world the plough has prospered in the vicinity of the loom and the anvil, and throughout the world it has failed to prosper where the loom and the anvil have been very distant, compelling its owner to waste labor and manure in the work of transportation and exchange. Let him then ask himself the remedy, first satisfying himself of the difference between the raising of tons of hay and potatoes to be consumed on the ground, on the one hand, or hundred weights of wheat or cotton to be sent from the land, on the other.

Since writing the above, we have met with an article from the London Times, on the grain crop of the United States, from which we take the following extract for the information of the farmers of the Union.

"Supposing the above tables to approach anything like correctness, one conclusion would seem apparent. A considerable surplus of wheat is produced (taking the American crop on the basis of 1847) over the amount required; and *prices must, consequently, decline in all open markets* until they reach a point which will lead to an increase of consumption sufficient to take off such surplus, or until a diminished production shall ensue in consequence of their passing below a remunerating rate."

In the same article is given a list of the open markets of the world—those which export food—and they are Russia, Egypt and Syria, eastern Germany, Denmark and Cicily—all of them the poorest countries in Europe; those which waste most labor and manure in the work of transportation and exchange, and have least of either to apply to that of production. Such are the countries with which the United States are required to compete, and a belief is confidently expressed by the writer in the Times that they will do so.—That they may do so, all that is necessary is that they should shut up their furnaces and factories, and drive the prosperous consumers to the west, there to become poor producers, and they may then, in the words of the Times, "boldly enter into competition with those of any other nation in the great corn market of the world"—even with the Russian boor and the Egyptian fellah. When consumers abounded in Egypt and Sicily, the producers were rich. They themselves consumed largely and had much to spare. The consumers have disappeared, and the producers have become poor. They can consume little themselves, and they have little to spare.

Flannel Mills Stopping.—"The mills of the Hon. Mr. Hale, of Haverhill, have stopped, in consequence of the great stock of flannels on hand and the limited demand the present season. We understand that the flannel business has paid little or nothing for a year past."—*Lowell Courier.*

When we meet with such notices as the above, (and they are now of constant occurrence) we cannot avoid reflecting on the injurious effect to the farmer that results from compelling men to travel west to *raise* food, when they would prefer, if at all possible, to stay at home and *consume* it. Every increase in the ratio of producers to consumers is an injury to the farmer and planter. Every increase in the ratio of consumers to producers is a gain to them; and yet we see farmers and planters throughout the country uniting to sustain a policy that builds up, *at their cost*, cities that are filled with people who live by profits of transportation and exchange. If every county in the Union had its mills, or furnaces, or other places of exchange, as it should have, we should hear no more of furnaces and mills stopping, nor should we witness such rapid growth of cities. while the country was being depopulated, because of the exhaustion attendant upon the cost of transporting and converting cotton and wool into cloth. When will the farmers and planters open their eyes to the fact that protection to the loom and the anvil is in reality protection to the plough?

"*Shortness of Hands*"—*how accounted for*—*Harvest.*—Last week completed, or nearly so, in this county, a long laborious harvest, including hay, wheat and oats. Each of these crops have been unusually abundant and of the best quality. The increased quantity of produce, as compared with the last preceding harvest, has doubled the amount of the farmer's labor in securing it. The increased quantity, a shortness of hands, and the brittleness of the weather. have subjected the farmers to a long laborious harvest; but their toil is rewarded by the extraordinary quantity and good quality of their products.—*Delaware County Rep.*

"The shortness of hands" will always be felt where the pursuits of labor are all of one kind; whatever tends to foster the greatest variety of employments, will be found most advantageous to all, and most especially to the farmer and planter, because their operations are simple, and require but little experience to perform those of them by which they are most liable to be pressed. Where the loom and the anvil, the saw mill, and the wind mill, the tanner and the shoemaker, labor in the neighborhood and buy of one another, each can be called upon at a pinch to help the other. There will be seasons of comparative leisure, as well as of business, in the employments of all, occurring at different seasons of the year; and if the farmer would insist on having the loom and the anvil, the iron monger and the miller, the tailor and the carpenter, come and settle near his plough: that is, if he will require a system of legislation that will make it most profitable for those who manufacture for him to be as near to him as possible, in that case, when the harvest presses, and his crops are threatened to be overtaken by summer storms and the frosts of winter, he can command help from neighboring mechanics and artisans, who will be willing to take in payment for their labor a portion of the very crop which their labor has assisted to save from destruction. Look where he will—view his interest and condition in whatever light he may, and the farmer and the planter will see that, instead of detracting from the value and diminishing the profits of other branches of industry, the more they prosper the better for him. The Earl of Leicester—otherwise and better known as the great Norlolk farmer—used to say that he would like to know that each of his tenants could drink his bottle of champaign every day; and so we say to the farmer and the planter, it would be better for them if every woodsawyer on the wharves could make money enough to buy their strawberries and their cream every day of their lives.

Light Engines and Light Trains.

There appears to be a growing disposition, on some of the English railways to try lighter engines for their branch roads. We recently published an article on this subject from the London Morning Chronicle, and we now give an article from the Civil Engineer and Architects' Journal on the same subject, from the Proceedings of the Institution of Mechanical Engineers, at their meeting on the 13th of June last, as we wish to keep up with the advance and changes of the opinions of practical men of experience both at home and abroad.

*Light Engines.—Light Trains.**—The secretary read the following paper on the above subject, by Mr. Samuel, engineer of the Eastern Counties railway:

"The small locomotive lately introduced on the Eastern Counties railway, having attracted some considerable attention, has induced me to present to your notice a short description of it; and at the same time to offer a few observations on the practicability of the principle to the conveyance of passengers. This carriage was constructed under my superintendence, for the purpose of conveying myself and inspectors on the lines of the Eastern Counties railway, and thereby avoid the great expense of special engines. The total length of the carriage is 12 feet 6 inches, and includes machinery, water tank, and seats for seven passengers, on one frame, which is hung below the axles, and is carried on four wheels, of 3 feet 4 inches in diameter, the floor being within 9 inches of the level of the rails. It is propelled by two cylinders, 3½ inches in diameter, with a 6 inch stroke, placed on each side of the boiler, and acting on a crank axle. The boiler is cylindrical, placed vertically, and is 1 foot 7 inches in diameter, by 4 feet 3 in. in height; containing a fire box 16 in. diameter, by 14 in. high; and 36 tubes, 3 feet 6 in. long, by 1½ inches diameter; giving 5½ feet heating surface on the fire box, and 38 feet on the tubes. The engine is fitted complete, with link motion, feed pumps, etc. The water tank is placed under the seats, and will contain 40 gallons. This carriage is capable of conveying seven persons, at the rate of 30 miles an hour. It has, at times, attained a speed of 44 miles; the consumption of coke is only 2½ lbs. per mile; and the weight of the whole machine does not exceed 25 cwt., including coke and water. The result of observations, which I have for a considerable time been making, on the branch passenger traffic of railways, has been to convince me that, on the whole, it is

* This paper fully supports our remarks in the "Journal" for December last, vol. ix, page 368.—[Ed. C. E. & A. J.]

not remunerative, and in some cases is even worked at a loss. I have been therefore led to consider whether the expenses might not be reduced, by the introduction of a system of steam carriages more suitable to the amount of traffic to be conveyed. It is evident that the more we can reduce the dead weight of the trains, and engines, in proportion to the nnmber of passengers, the less will be the expense of repairs, both of the carrying stock and engines, and of the way and works of the line. The average weight of a train on the branch lines of the leading railways, is 56 tons: the number of passengers conveyed by each train, not exceeding 35 to 40 on many of the branch railways in England. Supposing each passenger, with luggage, to weigh 1½ cwt., the total weight of passengers conveyed is about 3 tons; or, in other words, for every ton of paying load we are now carrying by the present system of locomotion, we have from 18 to 20 tons of dead weight. It is, therefore, in a commercial point of view of the greatest importance, not only to railway companies, but to the public generally, that some less expensive, and at the same time equally safe means of transit be adopted. It is therefore proposed to substitute steam carriages for locomotives on branch railways, similar in construction to the drawings herewith produced. These drawings represent a patent steam carriage, now in course of con struction under my direction, by Mr. W. B. Adams, the patentee, for the Eastern Counties railway company. The following are a few of the principal dimensions: diameter of cylinders, 7 inches; length of stroke, 12 inches; diameter of driving wheels, 5 feet; distance between centres, 20 feet; width of framing, 8 feet 6 in. The boiler is of the ordinary locomotive construction; 5 feet long by 2 ft. 6 in. diameter. The fire box is 2 feet 10½ in. by 2 feet 6 in. There are to be 115 tubes of 1½ inch diameter, and 5 feet 3 in. in length, giving 210 feet of heating surface in the tubes. The area of the fire box is 25 square feet, giving a total of 235 feet of heating surface on the boiler. The consumption of coke I have estimated at 7 lb. per mile, at a velocity of 40 miles per hour. The total weight of the steam carriage, with its coke and water, will not exceed 10 tons, and it will be capable of conveying about 42 passengers, at a speed of 40 miles per hour. The water is to be carried below the floor of the carriage, in wrought iron tubes of 12 inches diameter, and 12 feet long. One great object attained in this machine, is the reduction of the centre of gravity, and the consequent absence of lateral oscillation. This carriage is intended for the Enfield and Edmonton branch of the Eastern Counties railway, and is expected to be at work in abont three months from this date. When its practical utility and economy has been proved, I shall be glad to submit the result to the Institution at a future meeting: as I feel convinced that the subject is one deserving the attention of the members, and of all parties interested in the profitable working of railways. I may also add that were the system of light steam carriages adopted, branch railways might be constructed at a very small cost indeed, compared with the present outlay (which is unavoidable so long as the present system of heavy engines is continued:) and the advantages of railway accommodation might be extended to those districts, which can never hope to enjoy them, if the construction of railways continue to require such large outlay of capital."

Mr. M'Connell also read a communication on the same subject. He had declined giving any opinion, wishing to take the sense of the Institution upon the merits of the engine in question.

Mr. Samuel considered that his engine would save a considerable sum in the wear and tear of the rails, if not in coke, in consequence of the great reduction in tne weight of the engine. He estimated the wear and tear of rails at £80 per annum, independent of the loss in the tyres of driving wheels, which was a large source of outlay. He suggested the running of a number of small trains on a light description of rails, which would reduce the cost of branch railways, and at the same time be adequate to all the local traffic.

A member inquired, how the projector would be enabled to convey heavy castings upon such a line?

Mr. Samuel said that might be obviated by distributing the weight over several trucks, as was sometimes found necessary upon the lines now in use; and, in case of holiday excursions, he proposed running a number of these small trains, instead of the present heavy ones.

Mr. M'Connell said, that he presumed it would be desirable to have the rails sufficiently heavy to allow an ordinary locomotive to travel over them, in case additional carriages had to be taken on at certain points of the line for extra traffic arising from holidays, races, etc.

Mr. Samuel said, it would be desirable that such should be the case, where it could be done. It was proposed to construct these rails on longitudinal bearings of timber—therefore, a comparatively heavy engine might traverse it without danger. In reply to further questions, Mr. Samuel said, that the pressure usually used in this engine was 150 lbs., but it was not proposed to work the branch engines at a pressure of more than 80 lbs.

Mr. M'Connell and Mr. Cowper considered this engine peculiarly calculated to be worked with economy on the branch lines, as it would tend very much to make them pay, by economising the locomotive expenditure.

Mr. Buckle inquired, how the distance of the wheels would suit the present turn tables?

Mr. Samuel said, it was usual, at every terminus, to have a large turn table, suited for engine and tender; and, where there was not such a contrivance, they could make a triangle, which would be as good. The increased speed on these trains would obviate the necessity of frequent changes of carriages—and he estimated the average cost of conveying the passengers would not exceed one fifth of a penny per mile. Many of the branch lines did not pay, and some economising principle was needed to effect that object. In answer to further questions, Mr. Samuel said, that he proposed to work the goods traffic in a slmilar manner.

Mr. M'Connell still thought that the rails should be equal on these branch lines, to bear the ordinary engines now in use on the main lines, in case they went over them; the wear and tear would also be less upon strong rails.

Mr. Cowper considered the ordinary rails in use were much too light, and, at the present price of iron, he thought it bad policy to lay down so light rail.

The meeting expressed their entire approval of the engine for all the purposes of the branch line of railway.

From the Civil Engineer and Architects' Journal.

On Chemical and Electrical Forces.

BY PROFESSOR FARADAY.

Continued from page 647.

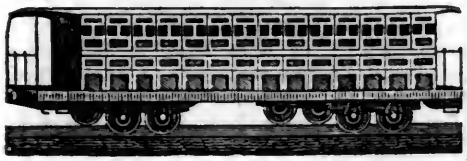
In commencing his *sixth lecture*, Professor Faraday said he was about to direct the attention of his auditors to a different condition of the electric force from that in which he had hitherto considered it, wherein the phenomena not only differ from, but are in many respects directly opposed to, those exhibited by chemical action and voltaic electricity; and yet the forces are the same. In the first place, he exhibited voltaic electricity in a higher state of tension than he had before done, by employing a water battery, consisting of a great number of pairs of plates, by which arrangement a small quantity of electricity in a high state of concentration was excited. In this condition voltaic electricity nearly resembles the electricity excited by rubbing a stick of sealing wax or a rod of glass. In the ordinary development of voltaic electricity, the effect is produced only when the current is passing, and ceases when it is broken; but in frictional electricity the power may be exerted when there is no current, and when the source of power is withdrawn. In this respect, indeed, the water battery evolves electricity resembling that of the eletrical machine, and forms the connecting link between frictional and chemically excited electricity, serving to prove that they are identical. In the first place, Professor Faraday showed that by touching an electroscope with only one of the wires of the battery, the gold leaves diverged, and continued divergent when the wire was removed, thus exhibiting the development and the retention of the power when there was no current passing. When the wire from the opposite pole of the water battery was brought in contract with the electroscope, the gold collapsed. To show the identity of the electricity thus evolved by the battery with the electricity excited by friction, Professor Faraday caused the gold leaves of the electroscope, when diverged by the battery, to be collapsed when an excited rod of glass was brought near, and to be made more divergent by an excited rod of gutta percha, or by a rod of shellac. The different means by which the effect is produced affords no ground for supposing the electricity of the battery and that excited by friction to be distinct, for what is termed frictional electricity may be excited in varieties

of ways, and is, in fact, continually being called into action, without our being sensible of its presence. The mere act of dusting a piece of metal with flannel was shown to excite electricity by its causing the leaves of the electroscope to diverge. We can scarcly touch anything without exciting this power, which however minute and imperceptible in its development in these instances, is precisely the same force which produces the grandest phenomena of nature—thunder and lightening. Having given illustrations of the similarity of the forces developed by chemical agency and by friction, the Professor dwelt on the apparent difference between them. One remarkable difference is, that the substances by which frictional electricity is excited undergo no change, the metals and the glass remaining just the same after having developed the power as before; whereas voltaic electricity cannot be excited without chemical action, and an apparent destruction of the zinc. Another variation in the phenomena of voltaic and of frictional electricity is exhibited in their conduction through various substances. Water, for instance, which is so imperfect a conductor of voltaic electricity, will readily conduct the whole quantity excited by a powerful electrical machine, through the moisture contained in a wetted silk thread. Frictional electricity is spread over the surfaces of bodies and does not enter them. This property was exhibited by several experiments, the most remarkable of which were the following:--A small metal ice pail was placed on an insulated stand, and then a metal ball, suspended by a silk string, and charged with electricity, was lowered into the pail. The electrtcity instantly diffused itself on the outside of the ice pail, and there was none within; for when the ball was again lowered into the pail and withdrawn, it produced no effect on the electroscope, but when the ball touched the outside the instrument was strongly effected. In the other experiment a wire gauze vase was substituted for the ice pail, with exactly similar results. When an electrical machine is excited, every person within sight of it is more or less affected by its influence, and a condition of electricity is induced in that part of their bodies towards the machine of a different kind from that developed by the conductor; and on the opposite side, or that farthest from the machine, electricity of the contrary kind is induced. This induction of positive and negative electricity on distant bodies, leads, as Professor Faraday observed, to important practical consequence. He had, he said, been often consulted by Government as to the property of having metal roofs on the powder mills at Waltham Abbey, and he had always objected to them as dangerous, because a thunder cloud might induce in the extended metal surface, an amount of electricity capable of discharging itself of earth. In illustration of this, a large insulated metal ball, placed at a distance of two feet from the conductor of the machine, was brought near a jet of gas, which became ignited by the induced electricity passing off in a spark to the metal gas pipe, though the ball was far too distant from the conductor for any spark to pass between them. The experiment was repeated several times, and each time with the same success.

The chief point to which Professor Faraday directed attention in the *seventh* and concluding lecture was, the cause of the difference between the phenomena of voltaic and of frictional electricity, his object being to prove that they are really identical. The marked difference between fricional and voltaic electricity, which were dwelt upon so much in the preceding lecture are caused entirely by the different degrees of intensity in which the force is developed, and Professor Faraday showed, in the concluding lecture, that, by diminishing the intensity of frictional electricity, the phenomena may be rendered similar; the great difficulty in showing these effects being caused by the very small quantity of electricity that can be evolved in a given time even by the most powerful electrical machine when compared with the amount evloved by the voltaic battery. The different appearances of the sparks emitted in the highest state of intensity by the electrical machine from those produced by the discharge of electricity, accumulated in the Leyden jar, and the alterations the light and the length of the sparks may undergo by being transmitted through various media, were shown in numerous experiments. Though the rapidity of the electric spark is evidently very great, it far exceeds in reality the appearance to the eye, for the duration of the impression on the retina after the light is extinct occasions a prolongation of the effect. It has been ascertained by Mr. Wheatstone, that the duration of the light of the spark is less than the millioneth part of a second, and Prof. Faraday exhibited the mode by which this fact has been established. A concave mirror, placed horizontally, was made to revolve with great rapidity by multiplying wheels, and when in action, a bright light from the combustion of lime was reflected to a focus on the ceiling. The rapidity of the motion caused the light to form a circle, in the same manner as the turning rapidly round of a lighted stick or of any other bright object seems to form a circle, in consequence of the impression on the retina remaining until the effect is renewed by the return of the light to its former place. When an electric spark was substituted for the permanent light, each spark was seen separately, and no circle or prolongation of the light was produced. The velocity of the mirror and the number of successive sparks being known, an approximation can be obtained to the duration of the light. It is in consequence of this instantaneous duration of electrical discharges that they fail to produce many of the effects of voltaic electricity, and if the continuous action of the latter during a second could be concentrated one million times its effects would be tremendous.—By diminishing the intensity of frictional electricity while retaining its quantity, Prof. Faraday ignited gun powder, which was blown away without ignition by the undiluted discharge. The following experiment afforded a good illustration of the different actions of frictional and voltaic electricities caused by the concentration of force in the former. A gold thread twisted with silk was deflagrated by a discharge from an electrical battery without injuring the silk, the action having been so instantaneous that there was not time to burn the silk, though the metal was destroyed by the heat evolved. When similar gold thread was exposed to the action of the voltaic battery, the silk was instantly consumed by the wire being made red hot, while the metal remained. The statical character of frictional electricity, Professor Faraday said, may be rendered current by applying a conducting substance to draw it off from the machine as quickly as it is excited, and the imperceptible effects of such a current prove how small the quantity of electricity excited really is, and it is only by allowing it to accumulate that we become sensible of its presence. The phenomena of lightning and thunder are owing to the facility with which Franklinic electricity can be accumulated, and thus reserved in store for an instantaneous discharge. Some specimens of the effects of lightning are exhibited on the lecture table. A number of splinters from a riven oak, a branch from a mulberry tree, the rent and shivered handle of a hay fork, and the partially melted iron cable of a ship were displayed. The latter is such an extraordinary exhibition of electrical power, that Prof. Faraday said nothing but the strongest evidence could have induced him to believe it: the ship was stated to have been struck with lightning during an earthquake at Callao.—This rending power of frictional electricity cannot be imitated by the voltaic battery, but all other phenomena of the one kind can be produced by the other. The recomposition of chemical compounds by the discharge of the Leyden jar was shown by the decomposition of iodide of pottassium, small, indeed, in effect, but corresponding with the quantity of electricity which the electrical machine evolves. The alliance of the phenomena of the two electricities had been shown in the course of these lectures, Prof. Faraday observed, by their physical effects in communicating shocks, by the equal rapidity of their transmission, by their decomposing and heating powers, and by the communication of magnetism. The difference between the two consists solely in the degree of intensity, the electricity of the machine exciting a small quantity in a high state of intensity, while the voltaic battery evolves a much larger quantity in a low state of tension. Professor Faraday, taking a small flock of gun cottan and exploding it in the flame of a candle, observed that the chemical force thus instantaneously called into action was equal to the production of an amount of electricity greater than would be contained in 500,000 charges of the powerful battery of Leyden jars which he had employed to deflagrate metal wires and gold leaf; and the important problem now remaining to be solved was, the conversion of such rapid chemical actions into current forces. Chemical decomposition he said, when taking place less energetically, had been shown to evolve electricity, which be-

came manifest and available as a current force by the voltaic battery, and it was quite within the reach of scientific discovery to render the most energetic phenomena of chemical force sources of continuous power.

CAR MANUFACTORY,
CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.
Cincinnati, Ohio, October 2, 1848. 41tf

TO CONTRACTORS.
GREAT LETTING OF WORK ON THE CLEVELAND, COLUMBUS & CINCINNATI RAILROAD.

PROPOSALS will be received at the office of the engineer, in the city of Cleveland, until the 1st day of November next, at noon, for the grading, bridging, and masonry, also timber for the superstructure of one hundred and thirty miles of the Cleveland, Columbus and Cincinnati Railroad, lying between the cities of Cleveland and Columbus. Said work comprises some of the finest ever offered to contractors, and will be let in long or short sections, as may be desired. The approximate quantities are 3,500,000 yards earth excavation, 30,000 perches masonry, 300,000 cross ties, or sleepers, etc.

Plans, profiles and specifications of the work will be ready for inspection at the offices in Cleveland and Columbus on and after the 15th of October next. Payments will be made monthly, on a fair average value of work done; twenty per cent. of which will be retained to ensure fulfillment of contract.
FREDERICK HARBACH, Eng.
September 21, 1848. 3t41

TO CONTRACTORS.
SEALED proposals will be received at the office of the Lafayette and Indianapolis Railroad Co. in Lafayette, until the 11th day of October next, for the Grading, Masonry and Bridging of that part of said road lying between the summit south of Durkee's Run, near Lafayette, and Lebanon, in Boone county, about 34 miles. Also, for the wooden superstructure for the same, in a distinct bid.

Plans and specifications will be exhibited by the engineer. By order of the Board.
ALBERT S. WHITE, Pres't.
Lafayette, Aug. 17, 1848. 6t35

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

RAILROAD IRON.
3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by
DAVIS, BROOKS & CO.,
68 Broad street.
New York, Sept. 16. 1848, 39tf
Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.
G. M. KNEVITT, Agent,
78 Broad St., New York.
September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS EOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.
ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
:y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

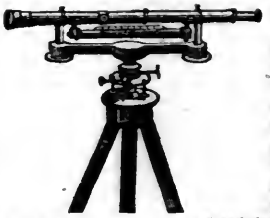
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*. and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

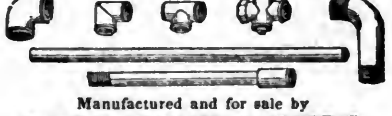
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.

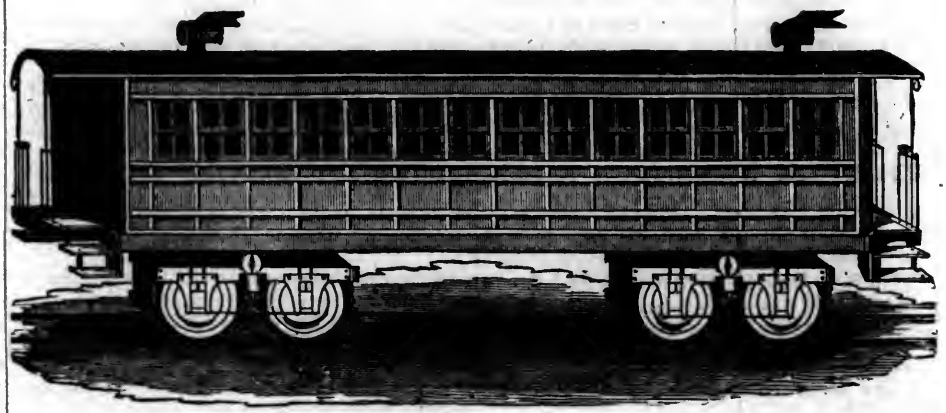


Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.
☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freigh engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power o he engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

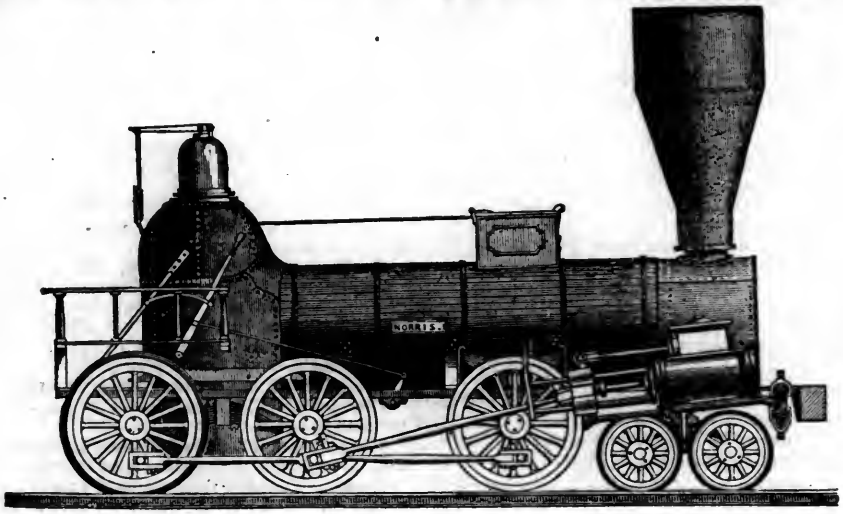
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

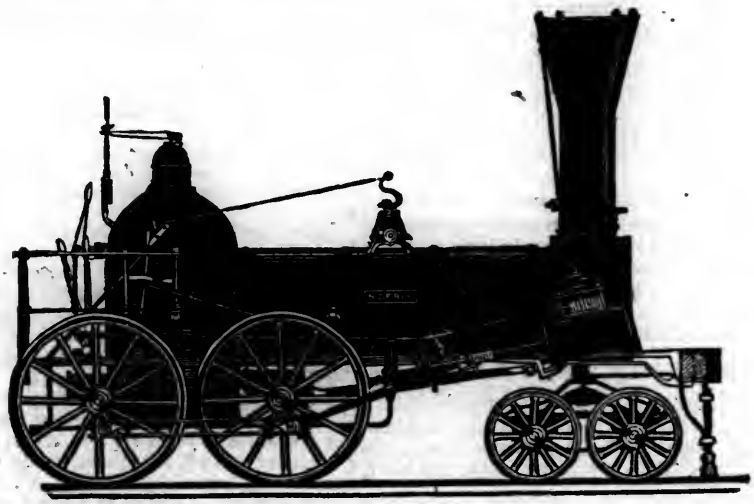
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25,1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 261 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid: The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger



trains will leave daily, Sun-



days excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.


This Road in connection with the South Carolina Railroad and

Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1v

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and

Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y10 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

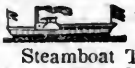
The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the


Trains will run as follows:


Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after


Tuesday, June 1st, 1847, the cars

will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

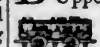
Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.


Summer Arrangement.
Commencing July 3d, 1848.


Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, July 3d, 1848.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for


1848.


A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1¼ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y

NORWICH AND WORCESTER RAILROAD. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves....Albany	7½ A.M.	2 P.M.	7 P.M.
Pass.....Utica	1 P.M.	7½ P.M.	1½ A.M.
Pass.....Syracuse	4½ P.M.	11 P.M.	5 A.M.
Pass.....Auburn	6½ P.M.	1 A.M.	7 A.M.
Pass.....Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at. Buffalo	5½ A.M.	12 M.	6 P.M.

Going east.	1st train.	2d train.	3d train.
Leaves....Buffalo	7½ A.M.	2 P.M.	7 P.M.
Pass.....Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....Auburn	6½ P.M.	1 A.M.	6 A.M.
Pass.....Syracuse	8½ P.M.	3½ A.M.	8 A.M.
Pass.....Utica	12 M.N.	7 A.M.	11½ A.M.
Arrives at. Albany	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, Jr.,
Secretary of the Convention.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

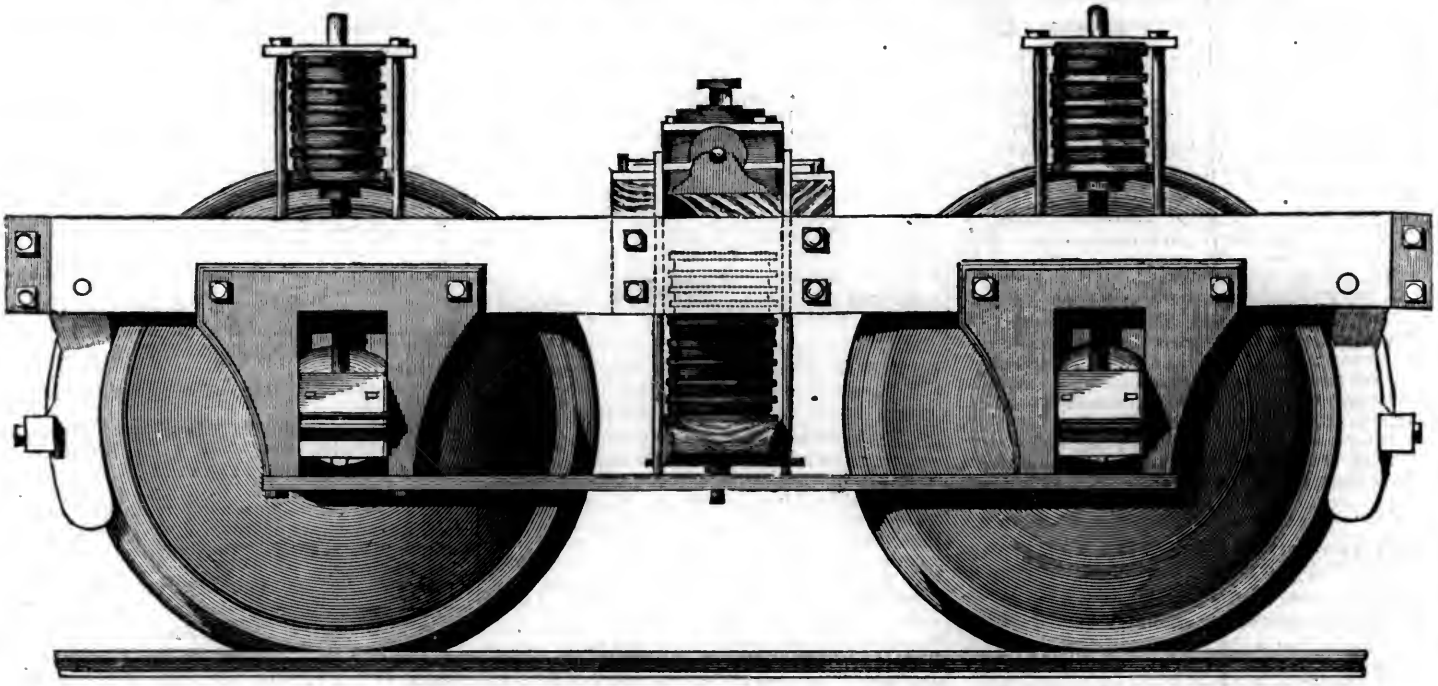
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Ruhber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New Yerk, or with
F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 43] SATURDAY, OCTOBER 21, 1848. [WHOLE No. 654, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, October 21, 1848.

☞ REMOVAL.

The Office of this Journal is removed from the *Franklin House*, to No. **48** SOUTH THIRD STREET, *third door north* of the *Girard Bank*.

*** A *special request* is hereby made, to those to whom Circulars have been recently addressed, that they will respond promptly to them, as an important question—to *us* at least—is to be decided in accordance with the response given to the request made in those circulars.

Camden and Amboy Railroad Company.
Its Privileges and its Abuses.

We gave, in our last, the grave charges of the "Citizen of Burlington," against this company, in his Review of their "Address to the People of New Jersey." If there are even grounds for *suspicion* of the truth of *such* charges, it is quite time that a thorough investigation should be had by legislative authority, and if they—or a tithe of them—are found true, let those guilty of such robberies be dealt with as is the highway robber, and the horse thief. Indeed, if justice were meted out to them, they would receive double punishment, as they have committed their robberies under the shield of law, which has prevented competition, and enabled them to pursue, for years, their iniquitous course, while others who live by depredations on their fellows, do so with the law, well known to them and their victims, stareing them in the face.

We have usually confined our remarks, in relation to the management of this company, to their system of high charges, and their violation of the laws, granting their privileges, by *over*-charging, and the *injurious* influences of such a course, upon the railroad interest of the country at large; without going into the details of their accounts, as set forth in their reports, in their returns and payment of duties to the State. Although we have published their reports—when we could get them—as will be seen in the Journal for 1840, an *eight* or *nine-years'* report, and in the current volume—No. 21, p. 324—another eight-years' report; yet we have never had the means of comparing these reports, with their sworn returns to the State, upon which *transit duties* were to be paid, therefore we were not aware that discrepancies existed. It appears, however, according to the "Review" of their late "Address," by "A Citizen of Burlington," (see page 10) that in in their report of 1840, they admit that the number carried "*across* the *State*," or "*from city to city*," in the years 1835-6-7-8 and 9, or in *five years*, was 802,615, while their returns to the State show only 764,124—leaving a discrepancy of *thirty-eight thousand four hundred and ninety-one!* Why is this? Again in the report made in January, 1848, for the past eight years, it is stated (see page 21) that for the years 1840 and 1841, there were carried 306,989½ "through passengers;" and for the years 1843 and 1844, the number carried, "from city to city," was 306,568½—or 613,558 passengers in those four years, while by the little report made in 1842, to the stockholders, the number of through passengers was put down at 325,500—and in the little reports for 1843 and 1844 it is stated that the number of passengers carried, "from city to city," was 368,913½ in those two years, or 689,413½—making a discrepancy of 75,853 in those four years! Why are such errors made if all is right?

This "Review" exhibits numerous and glaring discrepancies—or *errors?*—similar to the above, in returns which have been *sworn* to by the proper officers, both of the railroad and canal companies;—and at the close of his second letter (see page 23) he calls upon the attorney general to present the reports to the grand jury, as containing ample evidence for bills of indictment against the parties for perjury.

It appears that there are others, as well as the 'Citizen of Burlington," who believe that a system of fraud upon the State, as well as oppression upon the travelling and business community, has been practised by this company. An able writer in the Home Journal, published in New York, over the signature "Q," has, in the numbers for 7th and 14th inst., taken ground equally bold as the writer of the "Review." He says, in his first article, that—

"*There is no one subject now before the public, in which the citizens of New York have so great a pecuniary interest as in the removal of the abuses connected with that corporation*, (the C. & A. R. R. Co.) The administration of that company is a great public evil: calling for deliberate and determined action on the part of the community. So long as we had confidence in the integrity and good faith of the management of that body, we were disposed to trust to the influence of experience, and the suggestions of good sense as likely to operate upon the minds of the directors, in favor of a more liberal and popular system. Indeed, common reason and obvious self-interest have been so completely violated by the method heretofore employed in regard to those routes, supposing that all was candid and honest, that a strong conviction had taken root in many minds that 'all was not fair, all was not sound' in the interior condition of the companies. We had never yielded to suggestions of that nature; believing that good private standing in the community ought never to be at the mercy at mere suspicion. We were well aware, indeed, that in cases of this kind, there is a corporate conscience, and an individual conscience; and that a responsibility for conduct that is ineffably base and iniquitous, may be held representatively, as it were, and in commission, among a number of men who, in their personal and direct relations, are not more corrupt than the average of humanity. Still we thought that the general presumption of rectitude which the law obligingly makes—possibly because as a presumption of fact it very often could not be made—ought not to be overthrown by anything but direct and positive evidence. That evidence at last has come, and in an avalanche that no barriers of doubt can resist. Disclosures have recently been brought before the public, which put another aspect upon the matter, and call into exercise other considerations and feelings than those merely connected with convenience and propriety. They can awaken in any candid breast no emotions but those of the deepest moral disgust and indignation."

He says also that "It is not the display of a few accidental faults growing out of oversight and haste, or a few occasional deviations occasioned by the pressure of an apparent necessity: it is a scene of unvaried and unrelieved profligacy and extortion. In the principle of the system, and throughout its details; in grand schemes and in little expedients; at the beginning, at the middle, and at the end; everywhere and at all times; unauthorised profits have been the object, and unlawful practices the method."

* * * "The point of view under which, in relation to the public, we regard this disclosure of the inherent and entire dishonesty of the management, is this: In itself, it would be an affair merely between the steckholders and the directros of a corpor-

ation; but when it is considered in connection with the high rates of freight and passage, and the numerous other inconveniences to which the community is made subject, it shows that these evils have no real foundation in necessity or reason, but spring from bad faith and impure designs, and that there is no hope that any remonstrance, any course of argument, or any weight of interests, can lead to a better state of things. There is no wish honestly to discharge a duty to the public; on the contrary, the determination is to plunder the public, throughout every department of business, for the advantage of a few men, who use their power to increase their wealth, and apply their wealth to sustain their power. We do not design to indulge in any personalities—we are concerned not with individuals, but with a system. We have only to say, that in such a state of things, nothing is to be done but to put an end to the system. *The monopoly must be terminated.* The public generally, we are satisfied, has now arrived at the same conclusion. Throughout New York and New Jersey, and particularly throughout New England—which suffers most seriously from the extravagance of the freights—the resolution is fixed, among the better class of commercial men, that this oppressive institution must be removed. For ourselves, after careful reflection upon the whole case, at law and in fact, we are convinced that the abatement of the nuisance, by regular and legal means, is entirely practicable, and altogether indispensable. We have taken the subject up with the intention of following it out to the end. Hundreds stand beside us, and are resolved, with us, to see the matter out."

This is the language of the entire business community, and it will, ere long, be the langnage of the *entire press* of the *Union*, when those more immediately interested, in New Jersey, New York, and Philadelphia shall speak out—as they *soon will*—boldly on the sucject. "Q." says truly when he says

"It has been said, we know, that the press has been completely corrupted by the agents of this vast sovereignty, and that no newspaper in New York or Philadelphia was open to the free discussion of the subject. The company has been represented as sitting in the centre of New Jersey, like a new Briareus, and governing the ventages of public opinion with the fingers of its hundred hands. It was certainly a scheme of exquisite ingenuity to bribe a plundered country to silence with a share of the spoils taken from its own coffers. But that men of ordinary sense, and of common experience in life, should imgine that so preposterous an attempt could be successful, is only to be accounted for upon Burk's observation, that dishonesty is not a rational thing, and that, as knavery begins in perverted feelings, it ends in darkening and confusing the judgment.—That it has been tried is unquestionable. The annual report of the directors exhibits a list of newspapers whose editors and publishers, with their families, travel without charge over the road when they please. The whole number of free tickets is said to be about six hundred. It may become necessary, in the course of the discussion, to publish the names of the editors who thus barter their honor, and betray the community. But if the managers of the road really suppose that they will derive any strength from attempts to debauch the guardians of the public interests, they are destined to startling disappointment. You may as well attempt to push back the wind with a walking-stick, as to close up the avenues of the independent press against the issues of truth. That portion of the press which cannot be bribed will resent, with memorable efficiency, the endeavor to disgrace the other part. The press must deliver itself from this most discreditable suspicion. The time has come when the sentiments of the community can no longer be trifled with. The day of the absolutism of this company has passed by forever."

In his second communication, published in the Home Journal, this writer gives his views as follows, in relation to what are termed "monopolies"—or rather *chartered companies*. He says:

"We do not profess to be opposed to monopolies upon principle. We do not take the ground that they are inherently unconstitutional. They are not unlawful in themselves; and there may be circumstances in which it is a safe and wise policy to establish them. But this we take to be certain—that they are in all cases created for the promotion of the public good only, and not for the private benefit of either the corporation or its managers. A monopoly is the grant of a public trust of the highest delicacy and responsibility, both in honor and in law. The state takes away from her citizens the usual and natural protection that arises from competition, and places them under the absolute power of a corporation—surely, under an implied reliance, guaranteed by the *characters* of the persons confided in, that the privilege will be exercised with a good faith the most sincere, with integrity the most scrupulous, and with liberality the most beneficial. If gentlemen, accepting the transfer of a part of the sovereign power, which places the commerce and travel of a nation in their hands, prove utterly unfaithful to their duty, and pervert their trust systematically to the single purpose of individual gain, to the sacrifice of public interest and convenience, they not only incur the penalties of law, but they deserve the disrespect and disesteem of the community in their personal and private characters. It was thus that New Jersey gave transcendant authority to the most eminent of her citizens; and it is thus that they have used it. They have exercised the sway of princes, but not with the spirit of princes, nor with the candor of honorable men."

He says further, "In bringing before the public a view of the practices of this corporation, and the detrimental effect of them upon the interests of New York, we shall speak in separate letters successively of the *freights upon the railroad*, the *freights upon the canal* and the *rates for passengers*. Our present remarks have relation to the freights charged upon the railroad: and there are three principal circumstances on this subject to which we desire to direct attention, each of which is unquestionably and demonstrably true.' In the first place, the charges for transportation on the railroad have been enormously high—so high as to amount in all cases to a most onorous tax, and in many to a tax absolutely prohibitory, upon the mercantile communication of this city by land with Philadelphia: in the second place, these charges have been wholly illegal and in direct violation of the stipulations of their charter, as has recently been decided by the supreme court of New Jersey: and in the third place, this immense excess beyond the legal rate has not inured to the benefit of the company, but has been appropriated by the managers of the road, who, upon some pretext which we never could understand, allow the stockholders of the company only the legal rate of charges, and devote the rest to their private emolument.

"And first, we speak of the enormous magnitude of the freights which have been exacted ever since the road came into operation. The charter of the company, of date Feb. 4, 1830, authorised them to demand such tolls for transportation as they from time to time shall think reasonable and proper,—'*Provided* that they shall not charge more than at the rate of *eight* cents per ton per mile for the transportation of every species of property.' This was an extremely high rate, fixed in the infancy of the railroad system, when the cheapness of this mode of communication was so little understood that the limitation fixed for passengers in the same section was ten cents a mile, afterwards reduced by the state to about three and a half; and it was the maximum freight and was settled in reference to the lightest and most valuable articles of transportation. But this was not sufficient. Although this same charter expressly invested the company 'with all powers necessary to perfect an expeditious and complete line of communication from Philadelphia to New York,' and after giving them authority to make a railroad from Raritan bay to the Delaware river, expressly made it their duty also 'to provide suitable steam or other vessels at either extremity of the road, for the transportation of passengers and produce from city to city, so that no delay should occur for want thereof,' yet the company choose to construe the proviso as applying only to their railroad between Camden and Amboy, and not extending to their steamboat connection between Amboy and N. York; that is to say, to a distance of sixty-one miles only out of the whole eighty-eight, leaving the remaining twenty-seven miles as a field for unlimited demands. As the company has bought up all the landings at Amboy, so as to acquire a monopoly of the carrying trade between that place and New York this device of construction set them entirely free from the restriction which the legislature of New Jersey had placed upon them, And most remorselessly did they exercise the power which they had thus given themselves; for in many instances their charges have been at the rate of 25 cents a ton per mile, and varied between 8 cents and 25 cents, according to the nature of the goods. The construction—as we shall presently show by the authority of the supreme court, was palpably false; but had the company, after making it, proceeded to act upon it in good faith—had they adopted for the steamboat carriage from Amboy to New York, rates which bore any reasonable proportion either to their own railroad charges and to the actual expenses of the transportation, or to the rates charged in other steamboats, they might have claimed to be considered as having fallen into an honest mistake of the law. But taking their own showing of the case—supposing that they charge the maximum of eight cents for the 61 miles of road, and that they are not further bound by that restriction—it must follow, that in order to raise the average charge through a scale varying from 8 to 25 cents per mile of the whole distance, they must accumulate upon the remaining 27 miles a rate so immense and so disproportionate as fairly to be called extortionate, and to prove that their method of charging, even if it were not directly illegal, is at least not candid and honest, and was intended to defeat the design of the legislature, and is a fraud upon the charter from which they derive their existence. Water carriage is always cheaper than land carriage; yet, adopting the company's construction of the proviso, and their own explanation of their conduct under it, this result follows—that their charges from Amboy to New York, by water, are, for all kinds of merchandise, from *twice* to *five times* their railroad charges from Amboy to Philadelphia; and that they are from *five to fifteen* times greater than those on any steamboats arriving at New York. The legal rate of eight cents per mile for the whole distance is fully double the rate on any other such railroad line in the country; but not satisfied with this, the company directly violate the law and put an illegal construction upon their charter; and they then make an uncandid, an extortionate, an outrageously oppressive use even of this their own wrongful construction.

"We have stated that, in many instances, the company charged as high as 25 cents a ton per mile—being more than three times the maximum legal rate. We do not mean that this was an occasional or accidental thing. We state, from our own knowledge, that, for many years, the regular charge for silk goods transported from New York to Philadelphia on this railroad was *one dollar* the *hundred pounds*, through; that is $22 40 a ton, through, or 25¼ cents a ton per mile; the maximum legal rate being $7 04 a ton, through, or eight cents a ton per mile."

We have made these copious extracts to show that the writer understands the subject, and that he intends that others shall also understand it. We should like to give his communications entire, if our space would admit of it—but must close this article with his comparative statement of fares charged by this and other railroads, which is as follows:

"The conclusion, therefore, upon the whole matter to which we desire to direct the attention of the merchants of New York, is, that while the company were required, by their charter, not to go beyond 8 cents a mile as the *highest* charge for any merchandize, even the most valuable articles, their *average* charge, for *all* kinds of merchandise, light and heavy, has, for years, been twelve and a half cents per mile.

* * "On the Amboy route, it will be remembered, that two-thirds of the line is railroad, and one-third by steamboat. On the Boston and Provivence route, all railroad, the freight rates are from four and one-sixth to six cents a mile, of which the average is five and one-twelfth cents. On the route from Providence to Stonington, all railroad, the rate is from five to seven and a half cents, of which the average is six and a quarter cents; and this makes the average from Boston to Stonington, all railroad, five and seven-eighths cents; and the rate from Boston to New York, via this route—of which five-

twelfths of the way is by railroad, and the rest by steamer—is, for all weight goods, three and one-tenths cents a ton per mile. From Boston to New York, via Fall River, of which one-quarter of the distance is railroad, the average rate for weight goods is three cents a ton per mile. On the Western railway, from Worcester to Albany, the rate is, for heavy merchandise, three cents, and for light and bulky, five cents a mile, of which the average is four cents a ton a mile. From Worcester to Boston, the rate, for heavy merchandise, is six cents; the average rate for light and bulky merchandise is eight cents, making an average of seven cents a mile;—and, as Worcester is 44 miles from Boston, and 156 from Albany, the average rate from Boston to Albany is under four and three-quarter cents a mile.—The rate from Boston to Lowell for merchandise generally, is five and a half cents a ton, and for merchandise by the cargoe, is under five cents a ton. On the railroad from Boston to Portland, by the upper route, the rate is two cents a ton for heavy merchandise, and three and one-eleventh cents for light and bulky merchandise and dry goods—making an average of a trifle over two and a half cents a mile; by the lower route, the rate for heavy merchandise and dry goods is three and one-third cents, and for light and bulky, four and four-fifths cents. It is not worth while to pursue this enumeration further. If all the railroads to the north of us were brought under examination, the result would not materially differ. It follows that our merchants pay, for the transportation of merchandise from New York to Philadelphia—of which one-third is by water, and the residue by a railroad over a perfect plain—at a rate considerably greater than *two and a half* times the rate which the Boston merchants pay for transportation from their city to Albany, which is a railroad the whole distance, and over mountains and streams innumerable. Is it not obvious that a tax like this upon our southern and western trade must be extremely detrimental to the interests of New York?"

If the *two* lines of railroad, between Boston and Portland, can carry for an average of 3½ cents per mile, and make good dividends, the Camden and Amboy company *could* do as well upon *three cents* a mile, or even upon 2½ cents. And if those roads can carry passengers—*as they do*—for *two* cents a mile, the Camden and Amboy company would do better at 1½ cents; yet they charge 3½ to 4½ cents, and thus *restrict travel*, keep down their own profits, and defraud the State of *thousands* of dollars annually, which it would receive, if they adopted the spirit and policy of the age—and therefore agree fully with "Q." in his remark that "we have taken the matter up with the intention of following it out to the end."

Railroadiana, or Reminiscences of By-gone Days.

It appears to be a *matter of course* to record, and to repeat a thousand times, in prose and in verse, the efforts—or, as they are usually termed, the *exploits*—of the *successful* soldier in the field, in the destruction of his kind—or, in the usual prase, the enemies of his country. This may be well, and no more than justice to those who expose their *lives in defence* of their country's *honor*, in aggressive wars; yet we are not sure that a man is entitled to any more credit for exposing his life in a profession of his *choice*—in a post which he prefers to any other—a post which a thousand others equally capable, equally brave, are ready and anxious to occupy if he will resign it—than are the thousands who labor equally, and perhaps much more effectually, though in a less conspicuous position, for their country's prosperity. Such, however, is human nature, that the leader, who is *fortunate* in the use of means placed under his control, and more especially if the contest involves the loss of thousands of lives, is sure to meet the plaudits, and the admiration, not only of his own countrymen, but also of the world, while those who devote long years, perhaps a life-time, to the advancement of the *intelligence*, the *happiness*, and the *prosperity* of their countrymen, are scarcely known beyond their own neighborhood, or city, or State. And even there, in consequence of their modesty—as merit is usually modest—they are by no means justly appreciated, if we may judge by the way they are usually thrust into the shade—by those who came later into the field and adopted plans already matured—and are forgotten by the people who owe to them a large share of their present and increasing prosperity.

It is not because we suppose it possible to effect a change in the habits, and feelings, and actions, of the people, that we allude to them, nor to censure them for awarding just praise to those who fight our battles, but rather as a reason why we are disposed to seek for, and put on record, a memoir of the efforts of those who, in the *dark days* of the system, labored at least against the opinion of able friends, if not against hope, in the cause of some of the noblest enterprises in the country.

We have long desired to draw out from the hidden places, and put on record, facts which may be hereafter refered to by those who shall attempt to write the history of our American railroads. And during a recent visit to Boston—the city of many railroads—we intimated our desire to a friend who has been active in most of the important works constructed, or aided, by that noble city, when he promised to aid us in the effort, and to be the first to contribute of the mass of interesting facts within his experience and observation; and in accordance with that promise, he placed in our hands a memoir, written in 1842, in relation to the difficulties encountered, and overcome, in the construction of the

BOSTON AND ALBANY,

COMMONLY CALLED THE WESTERN RAILROAD.

To understand the subject fully, it is necessary to say that a charter was granted, March 15, 1843, to construct a railroad from Worcester, through Springfield, to the western boundary of the State. The capital stock to be not less than one, nor more than two millions of dollars—with power to make branches to any place in the towns adjoining those through which the main line passed—and also to the southern boundary of the State, to connect with the New Haven and Hartford road, with a prohibition to the construction of any other road from Worcester or Milbury to Hampden county, or from Springfield to Berkshire county, *within thirty years*. In 1835, surveys were made from Worcester to Springfield, at the expense of private individuals. In June, 1835, the books were opened in various parts of the State, and in New York, and great efforts made, but little was subscribed. In the Autumn of 1835, public meetings were held in Fanneuil Hall, and other parts of the State, and in December of the same year two millions of dollars had been subscribed. In January, 1836, the corporarion was organised, and an increase of $1,000,000 of capital was applied for, to be taken by the State, which was granted on the 4th of April of that year. In the same month the surveys were commenced between Worcester and Springfield, and in January, 1837, twenty miles were put under contract for grading, and the work, on this portion, was commenced on the 1st of February, and progressed with usual spirit until May, when the great revulsion in the business operations of the country, and the *suspension* of *specie payment* by the banks, caused great distrust and discouragement among the most enterprising and able men of Boston, as will be seen by the following letter written by WM. APPLETON and WM. STURGIS, Esqrs., gentlemen who are well known to the business world. Their letter, written, if we recollect, a day or two before the suspension by the banks, was addressed to the president of the Western railroad, and is as follows, viz:

"*Boston, May* 9, 1837.

THOS. B. WALES, Esq.,
President Western Railroad Corporation.

Dear Sir: Your note of 3d instant, inviting us to make any suggestions, that we think likely to promote the interest of the corporation, over which you preside, is before us.

In conversation with yourself and some of the directors, we have already explained our views fully on this subject, and shall now briefly re-state them, and the conclusion to which they have brought us. We do not believe that it would be *possible*, at the present time, to collect, from the private stockholders, three-fourths of an assessment which would be required to entitle you to the State subscription, and such is the change of times, and in the situation of many of these stockholders, that we see little probability of your being able to collect an assessment for several years to come. If we are right in this, it is evident that the work must stop when the money on hand shall have been expended, and as it is proposed to continue it on detached portions of the road no part of it can be finished and brought into use with your present amount of funds; and the whole expenditure will therefore remain wholly unproductive, until the revival and completion of the work. If proceedings should now be stopped, and the agent, overseers and other officers discharged, a great saving would be made, as we learn that the aggregate of these salaries is quite large. The funds, now on hand, could be placed at interest, and would accumulate, and be at command, when the time arrives for renewing the work. We presume that some contracts may have already been made, but think that a compromise may be effected with the contractors, at much less expense than will be incurred by going on. The work can probably be done now considerably cheaper than it could have been a year ago, but we feel confident that labor must fall still more, and that a year or two hence, contracts can be made on much more favorable terms than at the present time. We have consulted many of the largest stockholders, and find them uniformly and *decidedly* in favor of having the work *stopped immediately*. If this should be done, they will, doubtless, retain their stock, and responsible stockholders can then be found, when the time shall arrive for going on; but if further expenditure should be now made, and it should appear likely that more assessments should be called for, in the course of the present year, many of the largest stockholders (ourselves among the number) will deem it expedient to get rid of their stock, prefering to lose the amount already paid, or assessed, rather than go on, at a time when they think that every additional assessment paid in is but an additional loss. We may be wrong in these views, but at present are firm in the belief that if a general meeting of stockholders should be called, the vote to discontinue the work would be nearly unanimous.

Respectfully your obedient servants,
(Signed,) WM. APPETON,
WM. STURGIS."

These gentlemen are well known to the world as men of great wealth, acquired in the course of transactions, for a great amount, both at home and abroad. They are well known as men of great credit, in all parts of the world, and as men of unshrinking perseverance, who, when they put their hands to the plough, are not in the habit of looking back. They are known as men of great integrity. Both are dis-

tinguished in the Canton trade. Wm. Appleton is also particularly known as one of the meritorious citizens, whose creative impulse brought forth the city of Lowell: a model city, for cotton manufactures; a model city, for its success, through a long series even of disastrous years; a model city, for the elevated character of its manufacturers, male and female, as well as in skill and pecuniary success.—Wm. Sturgis is known as a very large owner and efficient promoter and director of important railroad companies, in and out of Massachusetts, and for *his great knowledge of the northwest coast. He is well known for that knowledge which gave birth to his Lecture upon the Oregon Territory, in which lecture, his master mind marked out the very line which* (as it placed in vivid light, the best way of guarding the rights essential to each party) *was adopted*, and acknowledged to be the best line, as soon as presented to Lord Ashburton, through Baring, Brothers & Co., and was, through Lord Ashburton, adopted by the British government, when it was placed under their eye; and it is but justice to state that Mr. WEBSTER, our able negotiator, on this occasion, gave very great weight to a recommendation coming from such a source, a recommendation which was, besides, self-sustained, by its own self-evident merit. *In result, then, the very line marked out in Wm. Sturgis' celebrated lecture, formed the basis, and almost the very words of the Oregon treaty;* thus terminating, (in a manner satisfactory to both parties,) a contention, which kept alive angry passions, and which was likely to lead us to a war, with one of the most powerful nations on the globe.

We have thus digressed from our present purpose, which is to present the course of one of the most able, and persevering, and far-sighted friends of the cause—we refer to P. P. F. DEGRAND, Esq.—and to *mark the starting point; the point of deep despondency*, as it must have been, when such men as Wm. Appleton and Wm. Sturgis (called upon for their opinion by the president of the Western road,) advised virtually abandoning the enterprise, and thus advised after making due and general inquiry. We have presented this letter, not in disparagement of the views of the distinguished men who wrote it, but *merely to bring in bold relief the fortunate conception of P. P. F. Degrand*, which was, "*that the State credit could be made to move*, to save the road; to save the character of the State, and to produce innumerable benefits, in despite of all the difficulties, which (distinct from this conception) would (as justly expressed by Wm. Appleton and Wm. Sturgis) have presented an insurmountable barrier to the progress of the road.

We shall give, in our next number, the 'memoir' above referred to, from which it will, we think, be seen that, but for the conception, the *confidence*, and the PERSEVERANCE of Mr. Degrand, that noble work, the Western railroad—the *prolific mother of railroads in New England*, as if *that* road would pay a fair return, *so would almost any other* that could be built—would have been abandoned, at least for some years.

We find, however, that, notwithstanding the discouraging circumstances of the period when this letter was written, the remainder of the distance, or 34 miles between Worcester and Springfield, was put under contract on the 1st of July, 1837. The highest grade being 51½ feet, the shortest curve 1146 feet, the highest embankment 63 feet, and the deepest cut 80 feet. The work was continued during the last half of 1837, and to January, 1839, when the grading of 52 miles was completed, the masonry mostly done, the bridges half constructed, the iron for the track purchased, of which for 17 miles delivered, and *six* miles laid down, engines and cars contracted for, depot lands purchased, and contracts for depot buildings advertised for, land damages all settled, and arrangements made for opening the road between Worcester and Springfield on, or or before, September of that year.

This was the position of the affairs of this corporation on the 1st of January, 1839, notwithstanding the despondence of its firm friends in May, 1837—and we shall learn from the 'memoir' in our next number by what means and efforts it reached a point so favorable, after having passed the crisis of 1837.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1838.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 7th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Oct. 10.	5,116 06.	191,683 05
By Room Run ....."	3,660 12..	98,722 04
By Hazleton.....	1,802 00..	72,614 00
By Beaver Meadow.....	2,739 13..	67,377 18
By Buck Mountain.....	2,827 08..	58,514 02
By Spring Mountain.....	782 14..	52,407 13
By Cranberry Mines.....	691 00..	11,541 00
White Haven.....	303 13..	8,670 12
Diamond Co.....	731 06..	3,201 04
Total.....	18,654 12.	564,731 18

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 12 h inst., and since the 1st of January, has been as follows—

	Tons
From Schuylkill Haven.....	10,244 09
" Pottsville	4,877 09
" Port Carbon	7,194 04
" Port Clinton.....	2,017 00
Total this week.....	24,333 02
Total this year.....	995,673 12

The amount of coal brought to market by the Schuylkill canal during the week ending the 12th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon.....	6,536 15
" Schuylkill Haven.....	4,106 09
" Port Clinton.....	637 10
Total this week.....	11,280 14
Total this year.....	348,352 08

Recapitulation.—Total Shipments this Season.

By Lehigh companies.....	564,731 18
By Reading railroad.....	995,673 12
By Schuylkill canal.....	343,352 08
Total.....	1,908,757 18

Whitney's Oregon Railroad.

The following bill was prepared with much labor by a select committee of the senate, Mr. Niles (chairman), Mr. D. H. Lewis, Mr. Bell, Mr. Corwen and Mr. Felch, and unanimously reported by the committee.

In the house a select committee of nine also made a very strong unanimous report in its favor, with a bill similar to the following.

AMENDMENT.

[A Bill to set apart and sell to Asa Whitney, of New York, a portion of the public lands to enable him to construct a railroad from Lake Michigan or the Mississippi river to the Pacific ocean.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,] That Asa Whitney, of New York, and his assigns, are hereby authorised to construct a railroad, from any point he or they may designate, upon Lake Michigan or the Mississippi river, at his or their option, through the public lands belonging to and under the jurisdiction of the United States, on a line as nearly straight as the face of the country will admit, and where the streams can be bridged, to some point on the Pacific ocean, where a suitable harbor may be had, under the conditions hereinafter specified and stipulated by this act.

Sec 2. And be it further enacted, That all lands belonging to or claimed by the United States, for thirty miles wide, or five full townships of six miles each, on each side of the line of the said road, and for any and all of what may have been sold before this act takes effect, an equivalent number of acres of other government lands to make the full quantity of thirty miles on each side of said road, is hereby set apart and sold to the said Whitney, his heirs and assigns, for the consideration of ten cents per acre, to be paid to the United States, and which sale is subject to the conditions hereinafter declared, and for the purpose of enabling said Whitney and his assigns, from the sale and settlement of said lands, to construct a railroad from either of the points aforesaid to the Pacific ocean. And so soon as said Whitney shall have located, fixed upon and surveyed the route for one hundred miles or more of said road, then all the lands for thirty miles wide on each side of said line so designated shall be, and are hereby, set apart and held for the special purposes of this act, and subject to the requirements and conditions thereof. And so soon as the said Whitney shall have located and surveyed one hundred miles or more of the line of said road, he shall be entitled to select a quantity of the public land, in any of the States or Territories, equal to the quantity which may have been sold within the said limits of thirty miles on each side of said line; and on his notifying the commissioner of the general land office of such selection, the same shall be withdrawn from sale and remain set apart for the objects and purposes of this act, in the same manner as the lands lying within the said limits of thirty miles on each side of the said line. And from time to time as the said Whitney shall locate and establish portions of the line of said road, the lands adjoining, to the extent of thirty miles on each side thereof, shall be withdrawn from sale, and also such lands as he may select as an equivalent for the lands which may have been sold within the said limits of thirty miles each side of said line.

Sec. 3. And be it further enacted, That, in locating said route, two hundred feet in width for the entire length of the road shall be appropriated expressly for said road, its stations, buildings, workshops, turnouts, etc., necessary for its complete operation, and shall be forever reserved for the especial purposes herein named, and shall not be transferable or subject to sale by the said Whitney, his heirs and assigns, for any other purpose.

Sec. 4. And be it further enacted, That no

part of the lands embraced by the provisions of this act shall be applied under its authority, and for the objects specified in the same, except under the following terms and conditions, to wit: Said Whitney shall first survey, fix upon, and locate the route for said road to a suitable bridging place on the Mississippi, if the road commence on or near lake Michigan, or, if commencing at the other point, to such distance as shall be necessary to secure the land for the purpose aforesaid. He shall also commence the work with machinery, preparations and arrangements for its continuance, and complete ten miles of road, according to the best plan of construction of railroads in the United States at the present day, with a single track, on a gauge or width of not less than six feet, and with an iron rail of not less than sixty four pounds to the yard, at his own expense, and to the satisfaction of the commissioner hereinafter directed to be appointed, to be charged with the interests of the United States, who shall certify to the commissioner of the general land office that said road has been substantially made and constructed, and is in all respects in conformity to the requirements of this act, and that said road is progressing; and thereupon said Whitney, and his assigns, shall be entitled and fully authorised to sell, at public or private sale, the first five miles of the breadth of said land so set apart for the construction of said road, and one half part of the equivalent lands selected in lieu of what may have been sold; and the commissioner of the general land office shall cause patents to be issued the same as for lands sold by the government; said patents to be delivered to the said Whitney, for the purchasers under contracts by and with him; and the title shall be the same as if they had purchased directly from and paid to the government for the lands. The other half, or five miles by thirty wide on each side of said road, with the equivalent as before named, shall be held by the government as a fund, to be applied to the construction of said road through poor or unavailable lands, inadequate for that purpose, and subject to sale only as hereinafter declared. And the road, with all its machinery, shall also be held as a security that the work will be continued. And in like manner, for eight hundred miles of said route, or so far as the one half or alternate five miles breadth of land so set apart, with the equivalent for lands sold, shall be found of sufficient value to pay for the construction of said road, said Whitney shall proceed, in manner aforesaid, being authorised to dispose of five miles of said breadth of land, whenever he may have constructed ten miles of the said road. But when the outlay for any ten miles of said road shall be found to exceed the sum for which the whole land, of thirty miles on each side thereof, is or can be sold for, and this fact being certified by said commissioner to the general land office, then the said Whitney shall be, and is hereby, authorised to demand a sale of the reserved lands, or such part thereof as may be necessary to supply the deficiency; which sale shall take place as hereinafter declared, and the said Whitney shall receive, direct from the proceeds of such sale, sufficient to reimburse his actual outlay; and the balance, if any, after deducting the expenses of said sale, shall be paid into the treasury by said commissioner, as hereinafter declared.

Sec. 5. And be it further enacted. That the one half or alternate five miles by thirty miles wide, of good lands which is by this act held to create a fund to aid in the construction of the road through the unavailable lands as aforesaid, shall be sold only as is actaally demanded by this act, for and with the progress of the road, or as the said lands may be demanded for actual settlement; which shall be decided upon by the said commissioner hereinafter hamed, by and with the advice and consent of the said Whitney; and said sale shall be at public auction, to the highest bidder, and in lots not exceeding forty to one hundred and sixty acres, and under the direction of said commissioner, said sale shall take place at the town or settlement nearest to the land to be sold; and said commissioner shall cause at least six months' notice to be given before said sale, in the two principal newspapers published at the city of Washington; the expenses thereof, as also that attending the sale, shall be paid from the proceeds of said sale, which sale shall be for cash only, twenty per cent. of which to be paid at the day of sale, and the balance on delivery of the patents, thirty days after; any or all purchasers neglecting to pay the balance on the day named for the delivery of the patents, shall forfeit the twenty per cent., and the sale be void; and the proceeds of any and all such sales, after deducting all necessary expenses, shall be paid into and held in the treasury of the United States, to be drawn for by the said Whitney as the money may be wanted to continue and complete said road, but never except under the certificate from said commissioner that this act has been fully complied with, and that there is a deficiency of means from the lands on the line of said road; and said fund shall be held in the treasury only as in trust for this work, and in no way considered as belonging to the treasury of the United States, while this work is being carried out, and subject only to this act.

Sec 6. And be it further enacted, That should any of the lands named in the fourth section of this act, which the said Whitney is authorised by the said fourth section to sell for his own use and benefit, remain unsold for ten years after said road shall have been completed through them, then all and any of said lands shall be sold at public auction in the same manner as is specified in the fifth section of this act; but the proceeds of all such sales, after deducting the necessary expenses, shall belong to, and be the property of the said Whitney, his heirs and assigns, and the commissioner of the general land office shall cause patents to issue, as before described in section four of this act, and they shall be given to the said Whitney, and from him to the actual purchasers, which shall be their full and complete title from the government.

Sec. 7. And be it further enacted, That until patents shall have issued from the general land office, no titles from, or contracts made by the said Whitney, shall be considered as binding on the government, and all the lands remaining unpatented, shall be exempted from taxation, as though they belonged to the government absolutely.

Sec. 8. And be it further enacted, That after the passage of this act, and before the entire route for said road from the eastern terminus to the Pacific ocean may have been fixed upon by the said Whitney, should any settlements take place upon any lands within the thirty miles wide on each side of the route, said settlers shall pay, when said route may have been fixed upon, one dollor and a quarter per acre for all such lands so settled upon, and the proceeds shall be applied to the construction of said road as specified by this act.

Sec. 9. And be it further enacted, That the said Whitney, and his assigns, shall keep said road in repair and operation, with turn outs, buildings and machinery necessary to accommodate the trade and travel on the line to the ocean and to the eastern terminus, and shall not charge tolls, either for passengers or freight, while the road is being built, exceeding what is then charged by the principal railroads of the United States, to be established and regulated by congress. And the U. States mails shall be furnished transportation free of charge to the government, but not including mailable matter to and from foreign countries.

Sec. 10. And be it further enacted, That after the completion of the whole of said road, from its eastern terminus to the Pacific ocean, the lands set apart by this act for that purpose, which then remain unsold, shall be and are hereby pledged and held as a fund for operating and keeping in repair said road for the period of ten years, unless it shall be found, previous to such period, that the tolls are sufficient for those purposes; and at the expiration of said ten years, or previously, if the commissioner shall certify that the tolls are sufficient to operate said road and keep it in repair, and the same shall be approved by congress, all such lands remaining unsold shall belong to said Whitney, his heirs and assigns, and shall be disposed of at public or private sale for his or their benefit, the titles to be secured by patents as is herein before provided. And when said road shall be completed as aforesaid, all moneys which may be in the treasury for lands sold under the aulhority of this act, together with said road, the buildings pertaining thereto, and the machinery necessary for its successful operation, shall belong to, and be vested in, said Whitney, and his heirs and assigns, but with the exception of the moneys, all subject to the rights of the United States and the control and regulation of congress hereinafter reserved. The moneys to be paid over to the said Whitney, or his assigns, on the certificate of the commissioner, that said road has been completed in conformity to the requirements of this act. But said road, buildings and machinery, shall stand pledged as security for the payment to the United States for the lands sold by this act.

tual, congress may then provide for the appointment of some other person or persons, for the general oversight and superintendence of said road, its repairs and operations.

Sec. 12. And be it further enacted, That the said Whitney and his assigns may, from time to time, enter into such contracts and arrangements with any State through which said road may pass, or with any individual company or corporation by and with the consent of said State, to build and operate said road, or any part thereof, through said State, or for any other matter or interest claimed under the rights and jurisdiction of any State through which said road may pass.

Sec. 11. And be it further enacted, That after said road shall be completed, the congress of the United States shall have power to establish and regulate its tolls or charges for freight and passengers forever after; and it being intended that this road shall be a free, public highway, as far as practicable, for the equal and common benefit of all the people of the United States, the rates of said tolls shall be such as to yield a revenue merely sufficient to keep said road in repair, and to defray the necessary expenses of its operation, superintendence and other charges, including the sum of four thousand dollars per annum, to be allowed to said Whitney, and his assigns, for the care and superintenpence of said road. And said Whitney and his assigns shall keep an account of the receipts or proceeds from the sale of all the lands set apart by this act for the purposes herein named, and also of the expenditures for the construction of said road, including the repairs whilst said work is being com pleted; and if it shall appear that the outlay has exceeded the receipts, which fact shall be certified by said commissioner to the secretary of the treasury, and by him communicated to congress, then such additional rates of toll may be imposed and collected, as may be found necessary to reimburse the said Whitney and his assigns for such deficiency. And should the business of the road require more than one track, then the said Whitney and his assigns are hereby authorised to construct one or more additional tracks at his or their expense, and, with the consent of the States through which said road may pass; and are hereby authorised to charge tolls, both for freight and passengers sufficient for the expenses of operation, etc., as also for a reward or return for the cost or outlay for such construction, which, as being connected with the first track, shall together be regulated and fixed by congress: Provided, That if, after the completion of the road, the said Whitney or his assigns, shall neglect and fail to take reasonable and proper care and supervision of said road, its repairs, operations and business to the detriment of the public convenience and interest, such neglect and failure to be judged of and decided by congress, it shall, in such case, be lawful for congress to impose a penalty for such neglect, or adopt such other measures as may be necessary to insure proper care and attention to said road, and the use thereof; and if such measures as may be adopted to correct the evil shall not be effec-

Sec. 13. And be it further enacted, That all of that part of the route for said road, which is not within a State, but territory of, and under the jurisdiction of the United States the said road, its machinery and appurtenances, shall be exempt from taxation forever; and this exemption shall be continued on admitting any of such territory to be a State of this Union.

Sec. 14. And be it further enacted, That the president of the United States, by and with the consent of the senate, shall appoint a commissioner, whose duty it shall be to superintend the interests of the United States in carrying out the objects of this act; he shall see that the road is promptly and properly constructed; that no waste is committed upon the unsold lands; and that the objects and intentions of this act are fairly and properly carried out. That when the said Whitney shall have from time to time completed the ten miles section of road as hereinbefore specified by this act, "according to tho best plan of construction for a railroad at the present day in the United States, on a gauge of not less than six feet, and with an iron rail of not less than sixty four pounds to the yard," then it shall be the duty of said commissioner and he is hereby authorised, to grant his certificate of satisfaction to the said Whitney that this act has been complied with. But should a disagreement arise between the said commissioner and the said Whitney, relative to the manner of the construction of said road, or any part thereof, such disagreement shall be referred to two competent engineers, chosen one by each party, and after examining the work their opinion or decision in writing shall be final and binding on said Whitney, and the said commissioner, who is hereby authorised to act and be governed by the same; but in a case or point where the two engineers selected cannot agree, then they shall select the third, and the opinion or decision in writing of the majority shall govern and be final, and the said commissioner and said Whitney shall so act. And in like manner for all and every disagreement which may arise under this act, relative to the construction of said road, the materials, the machinery, its operations and all other matters. It shall also be the duty of said commissioner to superintend, and cause due notice to be given of all sales of the lands named in this act, as hereinbefore specified in different sections, relating to sales at public auction; and it shall be his duty to report all such sales to the general land office, but he shall not have power to receive any payments for any lands sold. And it shall be the duty of the said commissioner to report fully to each session of congress, as to the manner in which this act is being carried out, and furnish the said Whitney with a copy of said report. Said commissioner shall be paid a salary not exceeding ———— per annum, to be paid out of the proceeds of land sold under this act.—The referees before named in this section of this act, shall be paid ——— dollars per day each, for the time actually occupied in and by the reference, and shall also be paid out of the proceeds of lands sold under this act.

Sec. 15. And be it further enacted, Tha all sales at public auction of that portion of the lands under this act, as declared and described in section fifth of this act, shall be made under the direction of said commissioner, as declared in said fifth section, together with the register for the district nearest to where said lands are located. Said sale or sales to take place in the same manner as all sales at public auction of government lands, but for terms of payment as specified in section fifth of this act; and the payment for all such sales, except as specified in section 4th and 6th of this act, shall be made to the receiver of public moneys for the United States in the district nearest to the place of sale; and said receiver shall be responsible for and account to the treasury of the United States for all such moneys so received, the same as for all moneys belonging to the United States:—but he shall keep a separate and distinct account of all such moneys, and his certificate or receipt in duplicate shall be given to both the said Whitney and the commissioner of the general land office the same as in case of sales of public lands.

Sec. 16. And be it further enacted, That the secretary of the treasury shall cause all moneys or funds received under this act to be kept safely in the treasury of the U. States, for the especial purposes of this act, as hereinbefore declared, and separately and distinctly from all moneys or funds belonging to the United States. That he shall report to each session of congress an accurate account of all moneys or funds received into, and all which may have been paid out of the treasury under as also the amount in the treasury subject to this act. And he is hereby authorised to pay to the said Whitney from any funds or moneys subject to this act, from time to time, any sum or sums which may be authorised by the certificate from said commissioner that this act has been complied with as hereinbefore declared.

Sec. 17. And be it further enacted, That the said Whitney is hereby permitted, if found necessary for the construction of said road and purposes connected with it, to cut timber, get stone, fuel and other materials from any unsold government lands convenient to said road.

Sec. 18. And be it further enacted, That if said Whitney and his assigns shall not, within two years from the passage of this act, locate and survey at least two hundred miles of said road from its eastern terminus, and have commenced the work and completed at least ten miles of the road, it shall be lawful for congress, and such right is hereby reserved, to repeal this act; and all rights and privileges conferred on said Whitney, his heirs and assigns, shall be forfeited and cease. And if, after having commenced and constructed a part of said road, said Whitney and his assigns shall, without good and sufficient reason, neglect to prosecute said work, and progress with the construction of said road, for the period of twelve months, congress reserves the right to revoke all the rights and privileges conferred by this act on said Whitney and his assigns, and to transfer the same

to some other person or persons, for carrying out and accomplishing the object contemplated by this act. But in such case, said Whitney and his assigns shall possess and hold such part of the lands set apart for the construction of this road, or the avails thereof, if sold, as the length of the road constructed may entitle him or them to, according to the provisions of this act; and the route for said road shall be located and surveyed from its eastern terminus to the Pacific ocean, and the road constructed and completed one third of the whole extent within nine years from the passage of this act; and one other third shall be made and completed within six years thereafter, and the entire road shall be furnished and in a condition for use within twenty five years from the passage of this act; and on failure of said Whitney and his assigns to complete any of the sections of said road within the period herein specified without good and sufficient reasons for such neglect, to be judged of by congress, the same right is reserved to congress to revoke the rights and privileges conferred on them, and to transfer the same to some other person or persons as aforesaid, the said Whitney and his assigns retaining such part of the lands, or the avails thereof, as they may be justly entitled to from the extent of the road constructed, according to the provisions and requirements of this act; and congress further reserves the right and power, at any time to alter or amend this act, as the public interest may require, so far as it can be done without impairing the rights and privileges of said Whitney and his assigns.

Improvements in the Iron Manufacture.

The American correspondent of the Birmingham Journal furnishes that paper with many interesting facts in relation especially to the iron trade of this country, which we shall avail of as they come back to us through the London Mining Journal; and as the following extract gives interesting information in relation to two important matters in the iron trade we give it entire.

A short time since we published a communication from the American correspondent of the Birmingham Journal, wherein mention was made of an invention connected with the manufacture of iron, which was creating considerable interest among parties interested in the iron trade of that country. The same authority, in a subsequent letter, gives the following additional particulars:

From the report of the commissioners of patents, I condense the following facts, which may not be without interest to those of your readers who are engaged in manufactures.—There were two patents granted in 1847 for obtaining iron from the ores. The first is for reducing ores in the ordinary cupola furnaces, and consists of little else than the addition of a consiant jet of steam upon the mass, while undergoing the ordinary process in such furnaces. The other is for producing malleable bar iron directly from the ore.—The process and apparatus now in use in bloomeries are attended with many disadvantages. The forge fire is such that all the ore and other materials for the loup cannot be placed upon it at once; but as large a mass as can be accommodated is placed upon the fire—and as the impurities are driven off, and the mass diminishes, other portions of the ore, etc., are added; and this is repeated until the loup is prepared for the hammer. In this process as the forge is open on all sides, the outside of the mass is constantly exposed to the atmosphere, which cools and retards the process, wasting time and fuel at the same time; and the addition of cold fresh materials produces the same effect. Thus it is evi dent that those portions of the ore which were earliest placed on the fire are kept there longer than is necessary, and are in danger of receiving injury therefrom, and the incongruous mass is with difficulty brought into the same condition, and prepared for the hammer. To obviate this, the patentee prepares a close chamber for the reception of the charge, of sufficient size to receive the whole charge at once; the upper part of the charge is supported in some degree by moveable bars extending across the chamber; and there are suitable doors which may be opened when necessary, for the recep'ion of the charge, for the working of the loup, and for removing it when ready for the hammer. When the loupe is nearly reduced, a new charge may be introduced, and made to rest upon the bars above mentioned, so as to receive all the benefit derivable from the beat which would otherwise be lost. These improvments are said to be in successful operation, effecting a great saving of time and fuel, increasing the quantity, and improving the quality of the iron.

A patent has been granted for improved machinery for twisting and rolling iron into bars. The following extract from the application of the patentee explains it use and process: "In the manufacture of iron either by rolling or hammering, the fibres are all drawn longitudinally, which, for the rails of railroads, for the tyres of railroad wheels, and a variety of other purposes, renders it liable to break off in thin leaves or scales, or to split lengthwise—this state of things being common in the two instances specified. The object of my invention is to treat the iron, either in the original manufacture thereof, or afterwards, as to avoid this defect, avd thereby render the iron for these purposes more durable, by laying the fibres in such form and direction as to prevent it from scaling off and spliting; and my invention consists in spliting the iron in, or before, or after the operation of rolling or hammering, so that the fibres shall wind around one another, in manner somewhat similar to the fibres of hemp in a twisted rope or strand. And the second part of my invention relates to the machinery by which I carry into effect my improved process, and consists in combining two or more sets of rollers, one or both of which are to be draw rollers, and one set turning in the usual permanent bearings, and the other set or sets working in a frame or chuck that rotates on an axis at right angles to the axis of the rollers, to twist the bar of iron between the two sets of rollers. To enable any one skilled in the art to apply my improved process of treating iron, and to construct and use the machine which I have invented, therefore I will describe the mode of paoceedure which I have assayed, as well as the manner of constructing and using the machine therefor.—The bloom of iron, or a bar previously formed, is taken while in a heated state, and twisted while undergoing the operation of hammering, which may be done by securing one end of the bloom or bar in a clamp, and rotating it while the hammer rests on the other end, or by securing the two ends in separate clamps, and turning one of them, or both, in opposite directions, until the required twist has been given, and then subjecting it to the operation of hammering. But when the bar is to be drawn by rolling, it is to undergo the operation of twisting while passing between the rollers, or after it has passed between one set, and before it passes between the second set. And when it is twisted on its way to the rollers, one end of the bar may be secured to a clamp, which is to be rotated as the bar passes between the draw rollers. As the bars thus prepared are in most instances to be reworked to receive the required form or forms according to the purposes to which they are to be applied, it will be evident that they may be twisted as they pass from the hammer or the rollers, instead of giving the twist before the hammering or rolling; and to effect this the end of the bar may be clamped as it leaves the hammer or rollers, and the required twist given; but it is better to give the twist before the iron has undergone the operation of rolling or hammering, as it is then more highly heated, and the fibres will not be so severely strained as they would be after the metal has been partly cooled. When iron has been treated and worked according to this process, the fibres instead of running in the bar longitudinally in straight lines, will run in direction of a helix, gradually approaching to a straight line from the circumference to the axis of the bar; so that, when used for making tyres, or for other analagous purposes, the bar will be prevented from spliting along its length by the tenacity of the fibres which cross the bar in the direction of a helix instead of the mere adhesion of the fibres together; and when used for the rails of railroads, or similar purposes, none of the fibres can be separated from the mass longitudinally as heretofore, nor can the iron be stripped off in scales until the fibres have been cut off on each side—for by their direction they pass diagonally from one side over the surface and down the other side, whereby they are completely tied together."

Letters patent have also been granted for forming pen barrels by drawing—a process similar to that of making wire. There are several ether patenis noticed in the report, for improvements in trip hammer tools, metalic pipes, and other articles common to your neighborhood, which it would be difficult to explain without plates.

The quantity of manufactured iron and steel imported into the United States during the last fiscal year, was not far from 65,000 tons, as follows:

Wire, 92,064 lbs.; nails, screws and spikes, 750,502 lbs.; cables, 2,292,192 lbs.; wrought

for locomotive engines, 52,855; malleable, 17,599; saws, 4,348; anchors, 28,203; anvils, 1,268,440; blacksmiths' hammers and sledges, 103,403: castings, 962,660; hollow ware, irons and hinges, 970,143; axletrees, nail rods, etc., 371,932; sheet and hoop iron 5,974,960 lbs. Pigs, 474,147 cwts.; scrap, 27,868: bar, 582,685; steel, 89,757 cwts.

The above was valued at $3,627,313.

Report of the Auburn and Syracuse Railroad Company.

Sir—Herewith is transmitted the statement of the Auburn and Syracuse railroad company, pursuant to a resolution of the assembly, passed February 2, 1843, for the year ending December 31, 1847.

Length of road, 26 miles.

Cost of construction stated for Jan, '47.		$679,186 52
Expended in construction in 1847.....	92,096 45	
Balance of interest account to January 1, 1847.....	105,037 38	
Expended for interest in 1847.	12,446 31	
		117,483 69
Total to January 1, 1818.....		888,766 66
Income from passengers.....		123,848 04
" freight.....		28,794 24
" U. S. mail.....		4,050 00
" incidental.....		416 87
		157,109 15
Number of through passengers.....		129,977½
" way "		10,628
		140,605½
Receipts from passengers.....		$123,828 04
Expenses for repairs and running road.		61,209 17
Amount of dividends.....		32,000 00
Number of locomotive engines.....		6
Number of passenger, mail and baggage cars, as follows:—26-251 parts of all the passenger, baggage and mail cars, owned as common stock, between Albany and Rochester, being 55 eight-wheeled passenger cars, 17 eight-wheel emigrant cars, 21 eight-wheeled baggage cars, and 4 eight wheeled mail cars.....		97
Number of eight wheeled freight cars.....		26
" four " "		18
" machine shops.....		1
Average number of men employed repairing & relaying with heavy rail.....		113
Number of miles run by passage, freight and other trains:		
Passenger train.....		57,952
Freight train.....		18,196
		76,148

THOMAS Y. HOW, JR.,
ELIJAH P. WILLIAMS.

New Property of Coke.

Mr. James Naysmith puplishes a short letter in the Mining Journal, in which he alludes to the discovery, of M. Jacquelain, that the *diamond* may be converted into *coke* by heat, and says that coke possesses the quality of, and *is*, diamond! We give his letter that our readers may learn his reasons for saying so.

SIR: Having just read in your Journal of the 22d some observations on the interesting experiments of M. Jacquelain, in reference to the conversion of diamond into coke, it occurs to me, that it may be interesting to some of your readers to be made aware of a discovery, in close connection with this subject, which I made several years ago, and which Prof. Faraday has done me the honor to communicate to the Royal Institution.—The grand distinction between the discovery of M. Jacquelain and mine, is simply this: that while he discovers that diamond can be made into coke, I had long since discovered that *coke was diamond;* in as far as that coke is possessed of one of the most *useful* and remarkable properties of diamond in respect to its power of *cutting* glass, owing, doubtless, to the extreme hardness of its ultimate particles, or minute crystals of which a mass of coke is found. We are apt to consider coke as a soft substonce, because we can crush it, and pulverise it with facility: but if we examine into the actual hardness of the minute, plate formed crystals, which compose a mass of that substance, we shall find they are possessed of a remarkable degree of hardness, and can cut glass with that clean looking cut which is so peculiar to the diamond. I use the word *cut* with all due consideration, in contra distinction to the scratching property which is possessed by all substances harder than glass; but it will be found that coke does not scratch, but really and truly cuts the glass, which any of your readers may prove by taking a small fragment of coke, and switching it at random across and across, a pan eof glass while the sun is shining through it, which will render the beautiful clear diamond like cuts, more distinct; they will be found to penetrate pretty deep into the body of the glass, and give forth most beautiful prismatic colors, as the light of the sun falls on them. So far this may be all pretty and interesting, as tending to still further identify the diamond with carbon; but, as I always like to have an eye to the practical application of scientific discovery, I am anxious to have the facts known to your readers, so as, together with the following remarks, they may peradventure, turn this discovery to some useful application; for, although I do not expect to see our glaziers using a cinder to cut the glass for the repair of brroken windows, in lieu of a chip of the queen of gems, yet I cannot but feel certain that, when the extreme diamond like hardness of coke is made known that the fact will be laid hold of, and turned to good account as a most cheap material for all grinding purposes, such as required for many processes in the arts—to say nothing of its useful application to the sharpening of a razor, as a very superior strop powder, for which purpose, however, the coke must be reduced by *evigation* to the most minute and impalpable powder. I shall leave the matter of application in the hands of your readers, now they are made aware of the fact which I have endeavored to communicate to them.

JAMES NASMYTH.

Bridgewater Foundry, Patricoft, near Manchester, July 24,

Compressed Air Railwry Brake.

A patent has been taken out in England for a railway brake, to be acted upon by compressed air.—The following is the specification of it; and as new ideas beget other new ideas, we give it a place, as a good *railway brake* is a desideratum. The following description will give some idea of it.

The patentee, in describing his invention, commences by stating, that according to the arrangements hitherto employed, for actuating the brakes of railway carriages, to retard their motion, much difficulty and inconvenience have been found, in consequence of the guards not being able to actuate the brakes of each carriage simultaneously, by which their impetus cannot be suddenly checked—and it is to obviate this inconvenience that the patentee proposes to substitute the present improvements in lieu thereof. The arrangement by which he proposess to effect this is as follows:

To each of the carriages there is attached an air reservoir, or tank, of sufficient strength to sustain a pressnre of from 50 to 60 lbs. on the square inch. This reservoir, or tank, he charges with compressed air, by means of an air pump of the ordinary construction, actuated in any convenient manner. In connection with this tank there is a pipe, which communicates with a main pipe, extending beneath the frame work of each carriage, and in the direction of its length, and midway between the wheels, upon which the carriage is mounted. From each side of this main pipe there extend branch pipes, communicating with cylinders, suitably fixed between each pair of wheels at the side of the carriage;—each of these cylinders are fitted with two pistons, working air tight therein, and having piston rods connected to them, the opposite end of each being furnished with a brake block of the ordinary kind: but instead of the middle of the block being in a line with the centre of the axle, upon which the wheel is keyed, the bottom of the block is in a line therewith, for the purpose hereafter described.

The patentee states that, assuming the pressure of the compressed air in the main tube or pipe, when filled, to be 5 lbs. on each sq. inch of the piston, and each piston to present a surface of the area of 200 square inches, there will be a force of 1000 lbs. exerted upon each piston, pressing the break blocks against the peripheries of the wheels; and this pressure will take place simultaneously in all the carriages comprising a train, upon the guard opening a valve for admitting the compressed air to pass from the reservoir, or tank, into the main pipe, by which the impetus of the train will be suddenly checked. The patentee states that, by increasing the pressure of the compressed air and the area of the piston, the pressure of the brake blocks may be augmented; and, although he has shown by the drawing, annexed to the specification, two pistons in each cylinder, he does not confine himself to this arrangement—as, in some cases, it will be found cheaper for each brake block to have a separate cylinder and piston, and instead of employing compressed air to effect pressure against the wheels. a vacuum may be formed in the main tube, and the pressure of the atmosphere be allowed to exert itself upon the other side of the piston—the end of the cylinder being left open for that purpose.

The claim is the so applying air, or other elastic fluid, that it may be conducted to, and made to act upon, the wheels of the carriages simultaneously, or by a vacuum as described. There is a disclaimer attached to this specification, discarding as useless that part of the title expressed by the words "and generally where a lifting power is required."

IRON VESSELS.

Improved Method of Constructeng Iron Vessels.—Having had some experience in the constructing of iron vessels, I beg to submit a plan which I think would be an improvement on what has hitherto been in use. You will be fully aware, that the practice in ship building has always been to place the floor timbers of the frame across the keel, which is all right and proper enough for ships built of timber. And it would seem, from the practice of those engaged in the building of iron ships, that they have thought the same rule should be observed in building ships of iron—that is, by placing the angle irons across the keel to form the floors of the frame. The properties of iron, however, being so different, it by no means follows that we should adhere to the same rules. The plan I submit for consideration is to form the keel and kelson of plate or bar iron in one or two breadths, from 1½ to 2½ inches in thickness, and from 20 to 24 inches deep, and then to form the floors of angle iron in two lengths and turn the ends of each up the side of the kelson, and connect them together by rivets through the kelson from side to side. The floor plates also should be in two lengths, which being rivetted to the floors, the two sides of the ship will be connected together, equally as well as by the old custom. By this plan also, there will be formed as strong a back bone as can be desired, and I think far superior to that now in use, as the connection with the keel and kelson and floors now in practice is not very efficient. Also, by this plan, the two sides are made completely water tight from each other; and if it were desired, by continuing the kelson upwards with a thinner material, the ship can be subdivided into fore and aft compartments in addition to the thwartship bulk heads. It will also be much easier to make the cross section compartments water tight, with the floors and kelson formed after this plan, than it is by any now in use And by turning the angle with a round corner at the garboard, it will form an excellent water course fore and aft, from bulkhead to bulkhead.—ROBERT FOWLES: *Lloyds Register of British and Foreign Shipping, North Shields, June 5.*

NEW TURN TABLE.

The Scottish railway Gazette says, "we had an opportunity of witnessing the practical application of one of the most recent and important inventions in connection with economy of railway termini. The inventor, in this instance, is Mr. Turiff, of the firm of Messrs. Turiff & Fullarton, Vulcan foundry, Paisley, and the machine of his ingenious construction, a powerful turntable. Having been driven a short distance up the line, where the reserved carriages are kept, in company with a few gentlemen, the engine and tender were turned into the side rails, for the purpose of testing the power and efficacy of the turn table. The engine and tender, weighing 36 tons, were then placed on the turntable, and two men turned it by means of two wheel pulleys, with comparative ease, in the almost incredible short time of about a minute and a half. There was not the slightest jar while the movement was proceeding; on the contrary, the carriages rested on the table as softly as if they had been on cushions. The great advantage of this invention of Mr Turiff's is, that with former turntables there are two frictions, while with this table there is only one; it is relieved by a powerful weight resting on the centre, which contains four large bolts, that lift the table from the side rails beneath. The machinery, like all inventions of practical use, is very simple, but composed of massive beams of iron, and can be worked by circular rollers, in cases of emergency. The turntable itself is 36 feet in diameter, weighs 25 tons, and sustains 51 tons revolving weight. The inventor has given the utmost stisfaction to the railway authorities—having been tested in presence of Mr. Johnstone, manager of the Glasgow and Ayr railway, and other gentlemen, before it was removed from the foundry in Paisley. It is, perhaps, necessary to remark, that the mechanic employed in the erection of the turntable at the railway here, Mr. J. Logan, has very accurately discharged his duty, and proved himself an efficient workman."

Report of the Auburn and Rochester Rail-Road Company.

Sir—The presicent, directors and company of the Auburn and Rochester railroad, submit the following report of operations in 1847:

The length of the road, 78 miles.

The cost of construction to January 1, 1847, was	$1,862,044 46
Expended on construction in 1847	272,740 16
	2,134,784 62
Deduct amount received for old iron	46,997 40
Cost of construction to 1st Jan., 1847.	2,087,797 22
Income in 1847	395,767 76
From through passengers	228,795 00
From way passengers	105,915 81
From freight	47,471 13
From U. S. mail and other sources	13,585 82
Expended for repairs and running road	154,613 97

Dividends in 1847, $112,000, viz:

On the 1st day of February	56,000
On the 1st day of August	56,000

Whole number of passengers, 189,345, viz:

Through	90,384½
Way	98,960½

Number of miles run by engines, 223,116, viz:

On passenger trains	145,809
On freight trains	52,185
On all other trains	25,122
Number of locomotives	12

Number of freight cars, 83, viz:

Eight wheel cars	71
Four wheel cars	12

Number of cars in the passenger business—78-251 of 74 passenger cars owned jointly by the lines of railroad between Rochester and Albany, and 78-326 of 29 baggage and mail cars owned jointly by the lines between Buffalo and Albany.

Number of horses	7
Number of machine shops	2

Average number of men employed in repairs 230, viz:

Carpenters	32
Blacksmiths	20
Machinists	26
Laborers	116
All others	36

CHARLES SEYMOUR, Sec'y.
WILLIAM WILEY, Supt.

Combustion of Fuel.

Richard Coad, of Kennington, England, has patented the following process for generating and using heat. He says:

The object of the first part of this invention is to divide the gases and the smoke resulting from the combustion of fuel in the furnace into numerous small streams, by causing them to pass through appertures in the heated fire bricks or lumps before they pass into the chimney. The great heat of the fire bricks thus effectually ignites the unconsumed gases and smoke. The fire lumps enclose the fire place at the sides, the end, and at the top, through the whole of which are made the apertures or openings which open to the general flue common to all.—There is also an aperture over the fire door to be regulated at pleasure, for the purpose of admitting a supply of atmospheric air in a heated or other state above the fire bars for assisting the combustion of the fuel and the gaseous products.

The second part of the specification relates to reverberatory furnaces, and consists in supplying through numerous apertures in the sides and ends of such furnace above the fire bars, any requisite supply of atmospheric air in a heated or other state, for the purpose of more effectually accomplishing the combustion of fuel in the fire place—the mode of construction described by the patentee being to form a passage or channel around three sides of the furnace, the fourth being open to the hearth of the furnace; this passage or channel is formed within the brickwork of the furnace. The portion between the fire place and the passage being of fire bricks or lumps, it is through these fire bricks or lumps that the apertures are made through which the supply of air is admitted from the passage to the fire place above the fire bars.—The patentee states he is perfectly aware that atmospheric air has before been admitted into various descriptions of furnaces above the fire bars: but it has not hitherto been so employed and admitted with respect to reverberatory furnaces.

The third improvement noticed in the specification relates to a more effectual and economical arrangement of apparatus for the heating of water, and for the warming of rooms or buildings. This improvement consists in the mode of arranging the bars at the back of the grate or fire place to prevent the fire from lying immediately against the tubes containing the water. There are a top and a bottom vessel connected together by these rows of vertical pipes or tubes, through the interior of which there is a communication between the vessels. From these vessels pipes communicate to warm apartments, buildings, or to other similar apparatus. The rows of vertical pipes or tubes connecting the vessels are placed immediately at the back of the fire place, the flame and heated air passing among them in its way to the chimney in front of the rows of pipes; and between the fire place and the pipes are bars for the purpose of preventing the fire from acting immediately against them. These bars are placed in vertical positions; the horizontal

section being convex in front against the fire and angular behind next to the pipes, they prevent the contact of the fire with the pipes, —these bars may be composed of fire clay, or of metal, but the patentee prefers the former. Above the fire place, the front of the flue or chimney is perforated or pierced with a number of small apertures, for the purpose of admitting air to assist the action of the apparatus.—*C. E. & A, Jour.*

JAMES LAURIE, *Civil Engineer.*

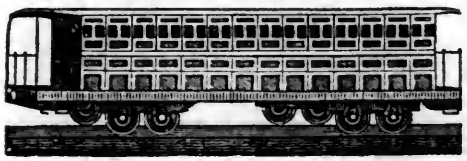
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.

October 14, 1848. 6m*

CAR MANUFACTORY,

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, October 2, 1848. 4ttf

TO CONTRACTORS.

GREAT LETTING OF WORK ON THE CLEVELAND, COLUMBUS & CINCINNATI RAILROAD.

PROPOSALS will be received at the office of the engineer, in the city of Cleveland, until the 1st day of November next, at noon, for the grading, bridging, and masonry, also timber for the superstructure of one hundred and thirty miles of the Cleveland, Columbus and Cincinnati Railroad, lying between the cities of Cleveland and Columbus. Said work comprises some of the finest ever offered to contractors, and will be let in long or short sections, as may be desired. The approximate quantities are 3,500,000 yards earth excavation, 30,000 perches masonry, 300,000 cross ties, or sleepers, etc.

Plans, profiles and specifications of the work will be ready for inspection at the offices in Cleveland and Columbus on and after the 15th of October next. Payments will be made monthly, on a fair average value of work done; twenty per cent. of which will be retained to ensure fulfillment of contract.

FREDERICK HARBACH, Eng.

September 21, 1848. 3t41

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS,

1y48

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.

September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS FOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.
The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

NEW PATENT CAR WHEELS.
THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON—SHEET IRON—BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.
THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.
THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

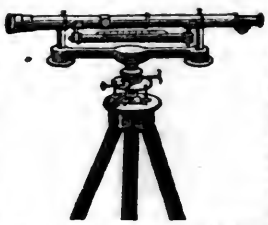
Albany Iron and Nail Works, Troy, N. Y.
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.
ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.
Kensington, Philadelphia Co., March 12, 1848. 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

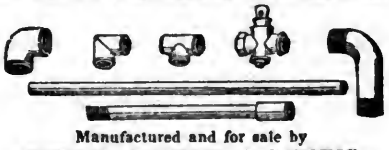
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



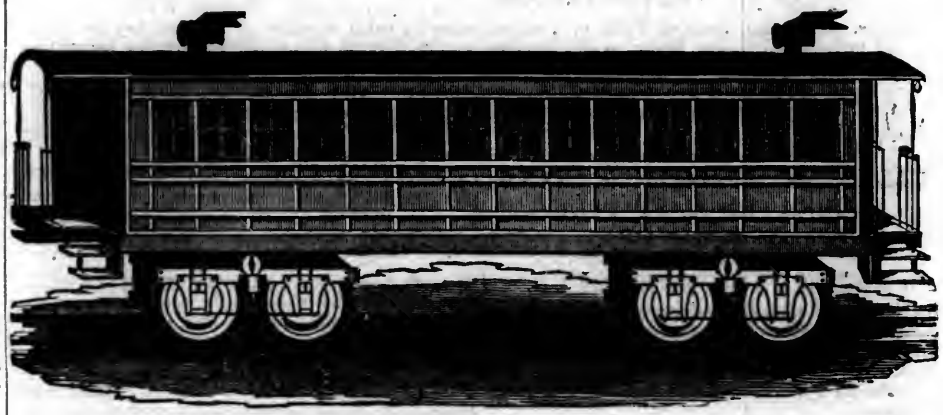
Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*f*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

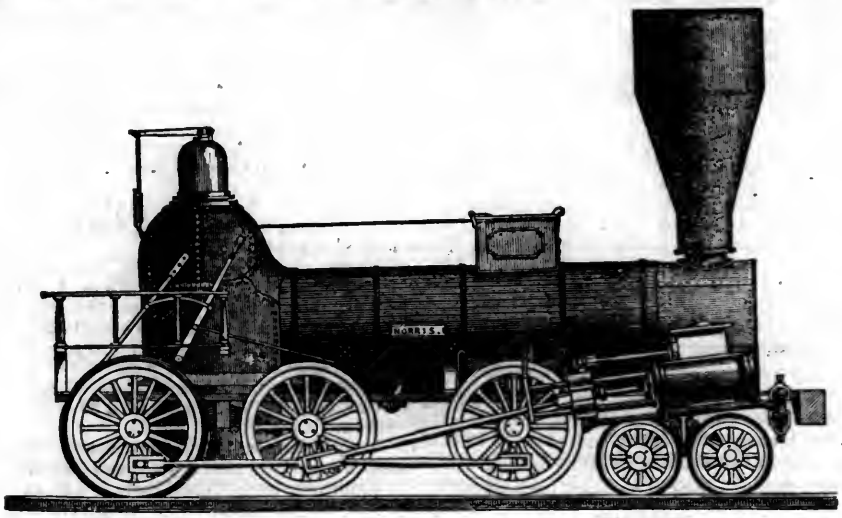
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

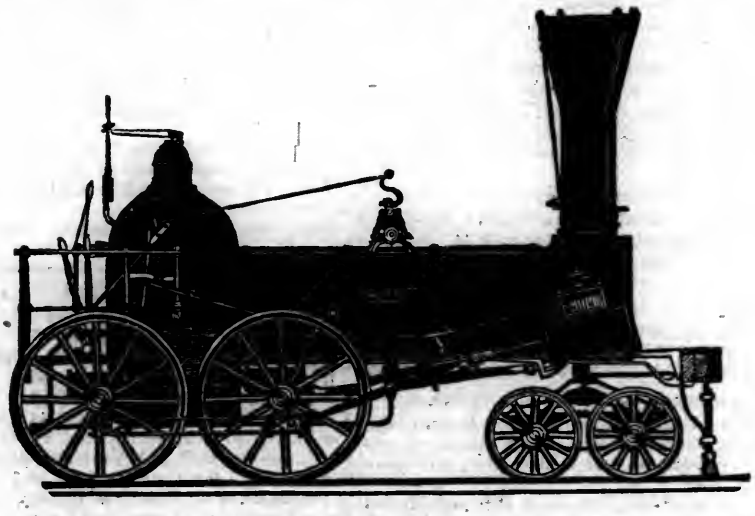
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7¼ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.


This Road in connection with the South Carolina Railroad and

Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1v

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.


This Road is open for the transportation of Passengers and

Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the

Trains will run as follows:


Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after

Tuesday, June 1st, 1847, the cars

will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

Summer Arrangement.


Commencing July 3d, 1848.


Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.


A Passenger Train will leave

Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12 Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAILROAD. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves	Albany	7½ A.M.	2 P.M.	7 P.M.
Pass.	Utica	1 P.M.	7½ P.M.	1½ A.M.
Pass.	Syracuse	4½ P.M.	11 P.M.	5 A.M.
Pass.	Auburn	6½ P.M.	1 A.M.	7 A.M.
Pass.	Rochester.	12½ M.	N. 7 A.M.	1 P.M.
Arrives at.	Buffalo	5½ A.M.	12 M.	6 P.M.
Going east.		**1st train**	**2d train.**	**3d train.**
Leaves	Buffalo	7½ A.M.	2 P.M.	7 P.M.
Pass.	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.	Auburn	6½ P.M.	1 A.M.	6 A.M.
Pass.	Syracuse	8½ P.M.	3½ A.M.	8 A.M.
Pass.	Utica	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, Jr.,
Secretary of the Convention.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

f25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price,
Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

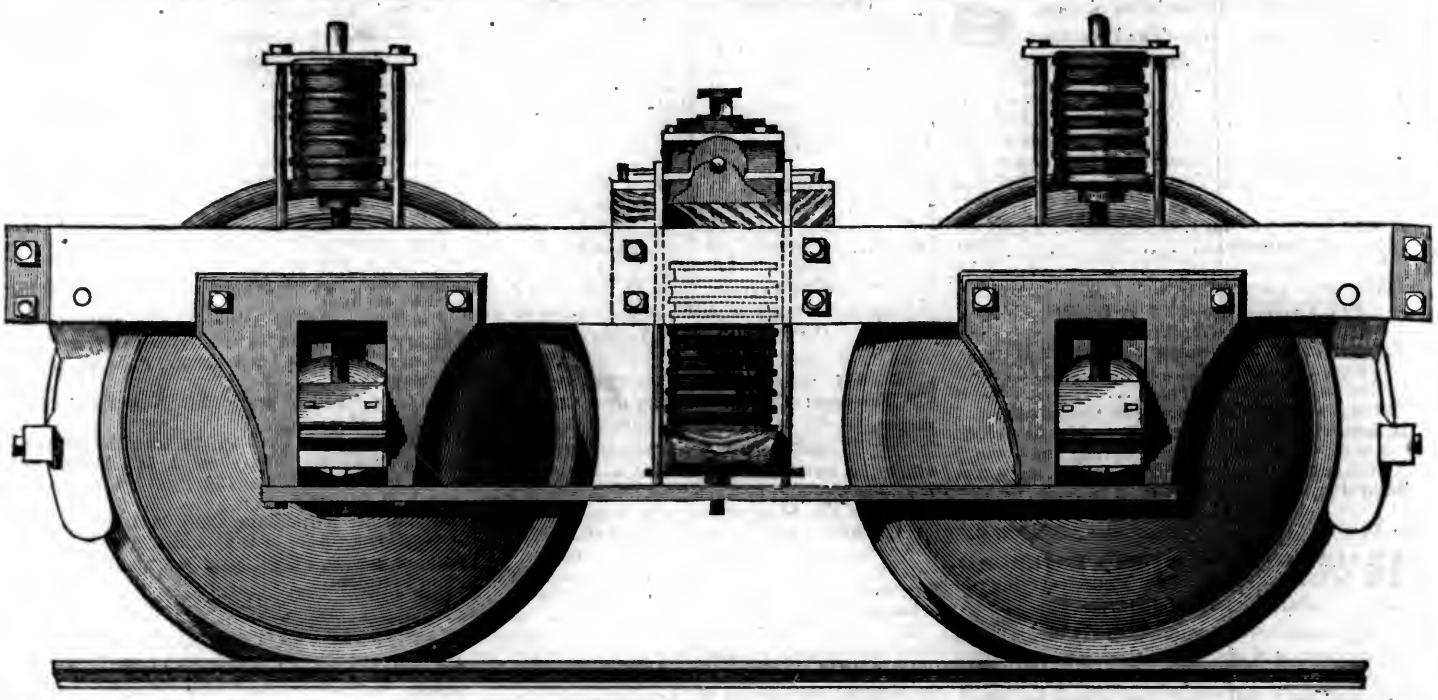
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company; on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for oaggage beyond 50 dollars in valne, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. & W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 44] SATURDAY, OCTOBER 28, 1848 [WHOLE No. 655, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, October 28, 1848.

☞REMOVAL.

The Office of this Journal is removed from the *Franklin House*, to No. 48 SOUTH THIRD STREET, *third door north* of the *Girard Bank*.

⁂ A *special request* is hereby made, to those to whom Circulars have been recently addressed, that they will respond promptly to them, as an important question—to *us* at least—is to be decided in accordance with the response given to the request made in those circulars.

RAILROAD IRON.

THE NEW JERSEY RAILROAD & TRANSPORTATION CO. have for sale from 450 to 500 tons of Iron Rails, weighing from 35 to 37 lbs. per yard, of the T pattern, recently taken up from their road to give place to a heavier rail, together with Chairs and Spikes to correspond, which they will sell cheap for cash; the rails have been straightened and prepared for re-laying, and are now ready for delivery on the dock at Jersey City. Apply at

57 Merchants Exchange,
August 23, 1848.—3t* New York.

RAILROAD IRON.

THE NEW JERSEY IRON CO.'S WORKS, at Trenton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't

139 Greenwich Street.
New York, October 25, 1848. tf

Fifth Line between New York and Philadelphia.

We give the annexed advertisement a conspicuous place in the Journal from gratitude alone—and will continue it *a year* without charge, if the managers will make the hour 7 A. M.: and *two* years, if they will apply these terms to the 9 A.M. and 4½ P.M. trains.

NEW YORK & PHILADELPHIA.



NEW JERSEY RAILROAD & TRANSPORTATION CO.—



6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11½ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

Railroads in Maine.

The article in to-day's issue, on the Railroad Enterprises in Maine, is more full than any account before published. We had hoped to have been able to furnish, in addition to our own article on the subject, one of much more interest, from the pen of a gentleman of that State, who is familiar with its wants and resources, and who has been one of the most efficient actors in *the great* enterprise now progressing in the direction of Montreal—from which the city of Portland is to derive so much advantage. We expect a series of articles from the same pen, which will display the advantages of railroads to Maine, in connection with their general influence on the destinies of the country, which will be highly interesting to the readers of the Journal elsewhere, as well as in that State. Maine has adopted a railroad system of her own, in some respects peculiar—which bids fair to produce important results, by the application of scientific foresight to the admitted truths which experience has elsewhere demonstrated. Our plan is to extend the knowledge of railway improvements in various parts, and supply full details of them in the different States, with a view to a comprehensive regard to the railway interests of the whole country. Maine, from her geographical position, must be regarded as an important field of railway enterprise.

New York and Philadelphia Railroads.

We perceive, by the Advertisement of the New Jersey Railroad Company, whose line extends from Jersey City to a short distance beyond New Brunswick, that another train is now run, between *New York and Philadelphia*, over that line, at *six in the morning*, at *three dollars*. This is an improvement, but upon a *small scale*, as very few people find it convenient, and many quite impossible, to go at that hour. There is *one* feature, however, in this new arrangement which is important—and for which we desire to thank those who *suggested* it, and also those who adopted it—and that is, the *excursion ticket from city to city and back*, at $5; which allows the party to return same day, in the 4½ P. M. line, or by next morning 6 o'clock line. This will be a great convenience to many business men—and, even though *still too high*, by at least a dollar, as may be shown by the *low fares*, and *increasing business*, and *net profits* of the railroads from Boston, yet it is a *concession* to public opinion, as expressed partially through the press, for which we are grateful, and again return thanks to those who have yielded so much. And, as we know of no way by which we can more fully impress them with our gratitude for their concession to the public, and their appreciation of the influence of an independent press—even though but *few in number* have *yet* spoken out decidedly in the matter—than by assuring them we are greatly encouraged to *continue* our *investigations*, and *explanations*, and *comparisons* of their operations, as compared with other successful roads, costing as much per mile, and having *not half* the population dependent upon them for a medium of business and preasure travel. If a *little* light has produced so mueh good—a continuation, and an increase, of that important medium will be very likely to enable the gentlemen who *control* the whole business to take another step in the right direction, and *then another*, until they come up with the age in which they live.

It is but just that we should say that our remarks on this subject apply particularly to the managers of the *Camden and Amboy line*, who have the power to *dictate* terms to the New Jersey company, as they could turn a large portion of the travel which now

passes through New Brunswick, by the way of *Amboy*—or they could run their *steamboats* up to New Brunswick, and thus take, not only a large portion of the passengers who come on in their cars, but also compete successfully for the New Brunswick passengers, by which the New Jersey company would lose much of their *through* business—therefore they are not as independent as they *ought* to be, and *would* be, if they controlled the road *through* to Philadelphia.

But we would again return thanks for the benefits rendered—desiring to say that if they will make it 7 *o'clock*, instead of 6—or even apply the *terms* of this line to the 9 A. M. line—we will *dispense* with the *fifth* line altogether *for the present*, and be *doubly* indebted, and *encouraged* to labor on to the end.

New York Canals.

Who that recollects the *origin* and *history* of these noble works, and *advocated* their construction—and recollects the *doubts* of the candid and honest—the ridicule of the *politician* and the *demagogue* who sought to ride into place, and power, by opposing what the people did not appreciate, and therefore doubted the policy of undertaking—does not feel a glow of pleasure when he reflects upon the amount of prosperity which they have produced to the people at large—not only in New York, but in *all* the *west*, and in *all* the *Union?* Well may those who devoted their time, their talents and their means to the commencement of these works, feel proud of their forecast and their labors, because they have produced so much good to *others*—so much *more* to *others* than to *themselves*.

The business of the present year has not been equal to that of 1847, which was very much beyond any previous year.

The following shows the comparative tolls during September 1847 and 1848—and for the season to Sept. 30th, as follows:

	1847.	1848.
Erie canal	$410,167 88	$478,974 56
Champlain	16,139 12	15,387 62
Oswego	10,521 50	11,338 24
Cayuga and Seneca	4,432 16	4,628 70
Chemung	2,751 55	2,084 03
Crooked lane	300 61	345 70
Chenango	4,075 06	4,217 45
Genesee Valley	3,223 31	3,657 42
Oneida Lake	89 31	137 81
Oneiga River improvem.	22 95	32 07
Seneca R. towing path	33 54	49 82
Totals	451,756 99	520,853 42

The increase in the month of September this year over the corresponding month of last year is $69,096 43.

The total amount of tolls received this year, from the opening of navigation to the close of Sept., five months, is 2,177,837 68
Do. for last year 2,667,256 06

Decrease 489,418 38
Tolls for 1st week in Octobdr, 1847 .... 121,537 60
" " " 1848 .... 128,241 78

Increase 6,804 18

It is very probable that the decrease will be much less at the close of navigation. There has been a fair increase every week for the past month; and as there are about nine weeks more of navigation on the canals, there is a chance for a considerable increase, compared with the corresponding weeks in 1847.

Report of the Tonawanda Railroad Co.

The Tonawanda Railroad Company, in compliance with a resolution of the honorable the Assembly, passed February 2, 1843, submit the following report:

The length of their road is estimated to be 43¼ miles.

The cost of construction of their road is as follows:

Amount charged to the account up to January 1, 1847		$753,555 19
Expended for construction in 1847		51,975 21
		805,530 40
Income from all sources during 1847:		
From passengers	155,993 48	
freight	27,684 15	
mails	6,368 75	
storage	2,869 70	
interest received	504 95	
engine and cars sold	1,339 33	
		194,751 36

Number of through and way passengers:

Through passengers	98,999½	paying	135,168 33
Way "	35,068½	"	22,569 91
Extra train on 4th July.			452 45
	134,068		158,190 69

Expense for construction, for repairs, running the road, etc.

Paid for construction in 1847	51,975 21
repairs and running the road	55,718 90
purchase of debts of the company	20,700 00
Interest and sinking fund on loan of State credit	7,027 61
	135,421 72
The amount of dividends paid 1st July, 1847, and 1st January, 1848	57,000 00

Number of locomotives, cars, etc., owned by the company.

6 locomotives.
5 8 wheel passenger cars.
3 4-wheel "

A joint interest with other companies in mail and baggage cars, equal to,

4 mail baggage cars.
28 8-wheel freight cars.
25 4-wheel "
2 wagons.
1 engine house.
1 machine shop.
1 carpenter shop.
1 horse.

The average number of men employed by this company in 1847 was 99
The number of miles run by passenger trains was 77,354
The number of miles run by freight trains .. 14,500

L. BROOKS, Tfeasurer.

Railroad Enterprises in Maine.

Few people out of the State of Maine, have any idea of the extent of railroads, authorised to be constructed in that State. Although somewhat watchful of the progress of such matters, we were not aware that *over six hundred and fifty* miles had been chartered by the legislature of Maine, until we obtained the following list, of the different lines, when at Portland, a short time since, from a gentleman who has been a *main spring* in the movement on this subject, within the State during the past few years.

Of these *twenty* main lines and branches, the "Bangor and Oldtown" road, of 12 miles in length, was first chartered, and first put into use, at a cost, as we infer, of about $350,000—that being the capital authorised; and few roads at that day were built for *less* than their estimates. Of the success and present condition of this road, we are not apprised, and shall therefore be obliged to any gentlemen who will furnish us with a statement showing its past and present doings and future prospects. In 1836 three other roads were chartered, viz: the Kennebec and Portland, from Augusta to Portland, 61 miles, with a capital of $1,600,000; the Boston and Maine, from South Berwick to N. Hampshire line, 3 miles; and the Machias-port road, of 8 miles, to Whitneyville, with a capital of $100,000. In 1837 the Portland, Saco and Portsmouth road, of 51 miles, was chartered, and completed, in connection with the Eastern road, from Boston to Portsmouth, and in connection with the Boston and Maine road, by which *two* lines were opened between Boston and Berwick, and one from thence to Portland. This fifty-one miles cost $1,250,000.

The Kennebec and Portland road was not, we believe, commenced until recently, or about two years since—its charter having been renewed in 1845; at about which time a new impulse was given to the railroad interest in Maine by the agitation of the subject of that bold and noble enterprise of a *railroad to Montreal*. In former days, 1840 to 1845, we were often led to wonder why it was that the States of Maine, New Hampshire and Vermont, were content to do without railroads when Massachusetts, Connecticut and Rhode Island were deriving such benefits from them. Their delay proved, however, only a period of inquiry and observation—to be sure they were right before they embarked in an enterprise requiring so much capital; and 1845 and 1846 was a period of decision, and commencement in those three States; and especially in Maine. The Atlantic and St. Lawrence road, of 150 miles, and two other roads, of 54 miles each, from the Atlantic road at Danville to Waterville, and from Waterville to Bangor, were chartered in addition to the renewal of the charter from Augusta to Portland of 61 miles—making 310 miles chartered and rechartered in one year; and these three roads have been commenced with spirit, and upon two of them 40 or 50 miles will be in operation this fall.

To Portland the completion of these three roads is of immense importance—more especially the road to Montreal—by which an opening will be made to the St. Lawrence and the great lakes.

With a harbor almost equal to any other on the Atlantic coast, Portland is, comparatively, a small place; and this results mainly from want of easy communication with the interior and grain-growing regions; but let the railroad be completed to Canada line, and thence to Montreal, by which the northern parts of New Hampshire and Vermont, and the most fertile region of the lower province of Canada may reach a seaport easier than to go to Boston; and also complete the other roads to, and *through* the valley of the Kennebeck, and Portland must advance at a rapid pace, until she assumes a population and importance which will snrprise her own most intelligent citizens, as well as astonish her neighbors—some of whom smile when they hear their Portland friends speak of their coming importance. So smiled many intelligent men in New York, in the early progress of the Erie canal—yet it was completed, and has accomplished *ten-fold* more than its most sanguine friends predicted. So smiled *some* of the wise men of Massachusetts, in relation to the proposal to construct the *Western railroad*—yet it has been completed, and who can, even *now*, *estimate* its value to the old Bay State, not only in what is done upon its own line, but also, and *especially*, in the *impulse* which its success has given to the railroad interest in New England, New York, and all the west. *So will* it be in Maine, and especially in Portland, the point of convergence of most of the important lines in that State.

We are not now able, as we hope soon to be, to give a more full view of the different lines, and their prospects, and prospective advantages to the people. We shall recur again, and often, to the subject, and shall be obliged to any gentleman residing in Maine, familiar with the subject, to give us facts and statistics.

LIST OF RAILROADS CHARTERED IN MAINE.

NAME.	FROM	TO	Incorporated.	Authorised capital.	Length Miles.	When finished.	Rail.	Weight per yd.	Cost.
Atlantic and St. Lawrence	Portland to Canada line—there to connect with the St. L. & A. R. R., and form one continuous line from Portland to Montreal.		1845	3,000,000	150		Bridge.	63	
Buckfield branch	Mechanic Falls, on the line of the A. & St. L. R. R. to Buckfield.		1847	200,000	13				
Androscoggin and Kennebec	Danville, on the line of the A. and St. L. R. R., to Waterville.		1845	1,000,000	54		Bridge.	63	
Penobscot and Kennebeck	Bangor,	Waterville.	1845	1,000,000	54				
Portland, Saco and Portsmouth	Portland,	Portsmouth.	1837	1,200,000	51	Dec. 1842	T.	56	1,250,000
Boston and Maine	New Hampshire line,	S. Berwick.	1836		3		T.	56	
Kennebeck and Portland	Augusta,	Portland.	1836&1845	1,600,000	61		Bridge.	56	
Bath branch	Brunswick, on the line of the Kennebec and P. R. R., to Bath.		1846		8		Bridge.	56	
Great Falls and South Berwick branch	State line in Berwick, to State line opposite Portsmouth		1848		18				
York and Cumberland	Portland,	S. Berwick.	1846	800,000	48				
Bangor and Piscataquis canal & R. R. Co.	Bangor,	Oldtown.	1833	600,000	12				
Bangor and Orono	Bangor,	Orine.	1847	400,000	8		Flat rail.		350,000
Belfast and Waterville	Belfast,	Waterville.	1848		33				
Franklin and Kennebeck	Farmington,	Augusta or Gardiner.	1847	1,000,000	37				
Somerset and Kennebeck	Carlunk falls,	Waterville.	1848		40				
Androscoggin	Greene,	Jay Bridge.	1848		25				
Lewiston and Topsham	Lewiston,	Topsham.	1848		20				
Machiasport	Whiteyville,	Machiasport	1836	100,000	8				
Calais and Milltown	Calais,	Milltown.	1837	100,000	3				100,000
South Thomaston			1848		8				

Baltimore and Ohio Railroad.

The Report of the Baltimore and Ohio Railroad Company—which we have not yet seen—for the year ending the 30th September, 1848, has just been presented to the stockholders. The receipts and expenditures for that year were as annexed:

Received for the trasportation of passengers, mails, and merchandise		$1,182,942 58
Due by the postoffice department and individuals		30,721 99
Making together		1,213,664 57
Expenses for working the road and machinery, and keeping them in repair, viz:		
Expenses of transportation	$219,962 46	
Repairs of road	167,365 05	
" locomotives	62,368 52	
" passenger cars	26,491 07	
" burden cars	74,614 10	
" bridges	59,509 18	
" depots	14,990 85	
" water stations	3,946 83	
Watching bridges and pumping water at water stations	12,012 35	
Losses by accidents, fire, etc	4,022 61	
Office and incidental expenses, including salaries, fees to counsel, house-rent, etc	16,603 74	
Stationery, machinery and shops	219 74	
Making an aggregate of expenses of		662,106 50

And showing the net earnings of the road for the last year to be $551,558 07.

It appears that the gross income from the main stem, for the year ending Sept. 30th, 1848, has been $1,213,664 57; the total expenditure properly chargeable thereto, 662,106 50: and the net revenue, 551,558 07; showing an increase over the preceding year of 111,727 99 in the gross income; 71,277 52 in the expenditure, and 40,450 47 in the net revenue.

Washington Branch Railroad.

The receipts on this road for the year ending September 30th, 1848, were for passengers, merchandise and mails $250,875 42

Due by the postoffice department and individuals 4,289 31

255,164 73

The expenditures during the same period have been as follows, viz:

For bonus to the State, one-fifth of the receipts from passengers	45,884 78	
Expenses of transportation	27,365 89	
Repairs of the road	25,909 61	
" passenger cars	8,107 91	
" burden cars	5,991 25	
" locomotives	6,431 99	
" bridges	7,025 93	
" depots	306 12	
" water stations	225 66	
Eldridge Landing annuity	1,250 00	
Washington property	945 61	
Miscellaneous improvements	2,881 22	
Watching bridges	614 00	
Losses by accidents	75 70	
Passenger cars	1,710 00	
Office and incidental expenses, including salaries, house rent, etc	8,999 60	
Making an aggregate of expenses of		143,524 97
And showing the net earnings for the year to be		111,639 76

It appears that the gross income from the Washington road, for the year ending 30th September, 1848, has been $255,164 73; the total expenditures, properly chargeable thereto, 143,524 92; and the net revenue, 111,639 76; showing an increase over the preceding year of 36,746 42 in the grose income; 14,714 22 in the expenditure, and 22,032 20 in the net revenue.

Of the net revenue of the year, the board have declared a dividend, for the last six months, of three dollars upon each share of stock, payable on and after the 15th day of November next.

Grigg's Band and Pulley Brake.

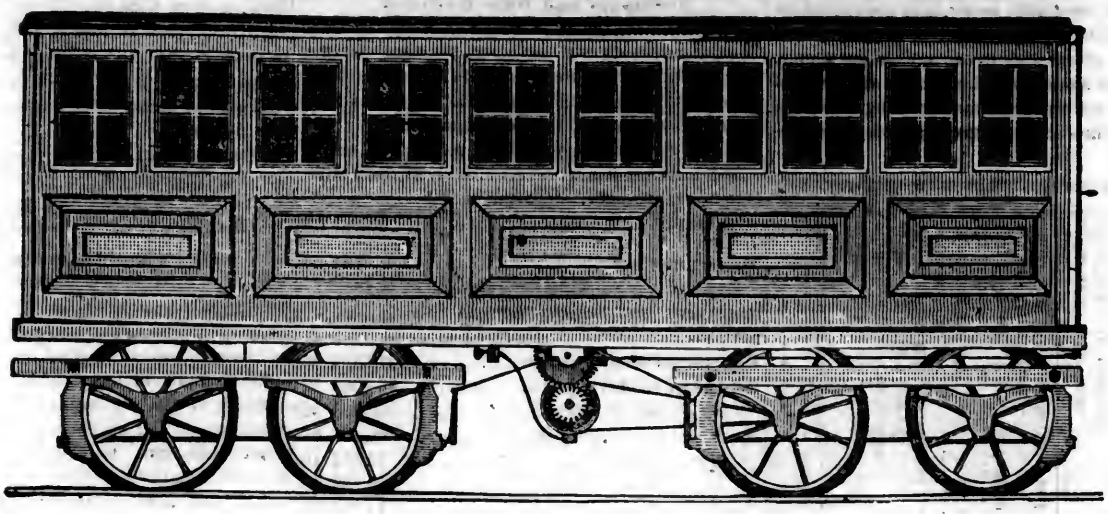
We have frequently invited the attention of the readers of this Journal to the improvement of the brake for railway carriages; and we do not intend to allow an opportunity of inculcating the importance of more efficient machinery for arresting the progress of railway trains, when approaching obstructions on the track, or of *drawbridges open*, to pass unimproved. In many cases, where passengers have been maimed for life, or lives have been lost, and the machinery entirely destroyed, or injured to a large amount, the accident might have been *entirely avoided* if the cars, or even the locomotive and tender, had been furnished with more powerful brakes. In *two* instances of serious damage to machinery, and of *peril* the *most imminent* to *hundreds* of passengers, accident might have been entirely avoided by a brake, such as that of which we here present a description, and illustration. We allude particularly to the accidents, within the current year, on the New Jersey road at the Newark drawbridge, and on the Old Colony road at the South Boston drawbridge, in both of which cases the *locomotive* and *tender*, we believe, went *down*, and the forward wheels of each forward car passed over the precipice; and, had the trains been under a little more headway, or had the brakemen, by any accident, been out of their place, every car, with its passengers, must have gone down into the water, and many lives have been lost.

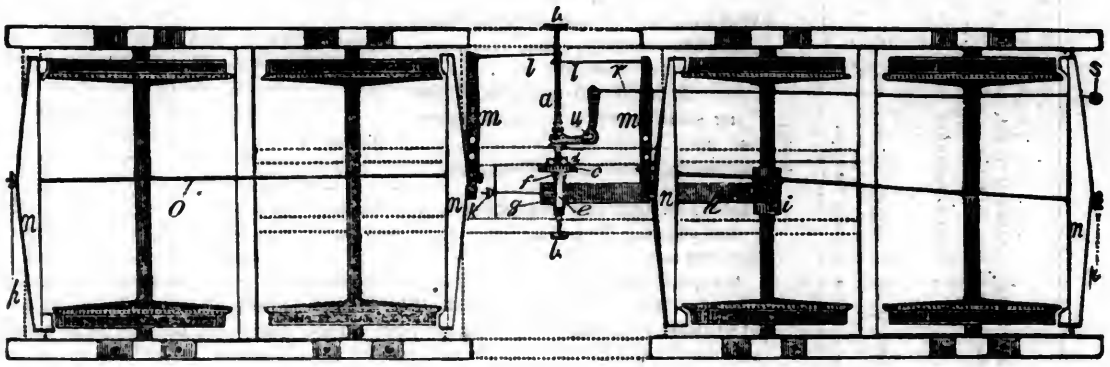
It is our practice, when travelling on railroads, always to examine the engines and cars, to see what improvements we can discover, that we may speak of them for the benefit of others; and so also when we find a model of any improvement which promises utility to companies, and, especially *safety* to passengers, we endeavor to examine its application in practice, and obtain the opinion of practical and disinterested men who have used it, that we may be able speak of it as it deserves. And in this way have we endeavored to understand this apparatus.

Mr. Geo. S. Griggs, the inventor, is, and has been for years, the superintendant of machinery on the Boston and Providence railroad: and his brake has been in use on that road for several years, and is highly appreciated by those who have used it, as will be seen by the annexed statement, of Messrs. Turner and Heustis. We also conversed, in relation to it, with the able and gentlemanly superintendant of the road, *W. Raymond Lee, Esq.*, who spoke of it in high terms; and we therefore feel justified in calling the attention of railroad managers to it, as an important appendage to their trains—either upon the tender, or cars, or *both*.

One of its peculiar advantages consists in its being under the control of the *engineman, as well as* of the conductor, and may therefore be much sooner brought into use, when obstructions are discovered on the track, than by giving a signal to the brakemen. The simple pulling of a line will put it *in*, or *out of* gear, and it may be applied to one, or more cars, at the same time.

The following description of the illustrations will give an idea of its construction and operation.





The first of the above drawings is an elevation of an eight wheel passenger car, with Grigg's band and pulley brake attached.

The second drawing is a horizontal section, showing the band and pulley brake.

DESCRIPTION.

a, represents a shaft suspended to body of the car by boxes *b b*.

c c, a cog wheel, which revolves on shaft *a*, when not connected by clutch *d*.

e, a frame suspended on shaft *a*, supporting pinion *f*, pulley *g*.

h, a belt passing over pulley *g* and the axle of the car *i*.

k, tempering screw, connected with frame *e* and the body of the car, to keep the belt sufficiently tight to allow the car wheels to just turn, or to make them slide when the brakes are applied.

l l, chains attached to shaft *a*, and levers *m m*, which wind round the shaft *a* when wheel *e* is connected by clutch on shaft *a*.—

m m, levers connected to brakes *n n n n*, by rods *o o*, on one end of which are the tempering screws *p p*, to adjust the brakes to the wheels, so that they shall bring them all to slide at the same time, or so as just to revolve without sliding.

u, a forked lever, supported by the frame of the car to move the clutch *d*, by means of rod *r*, which is connected with the upright lever *s*, the top of which is in the form of a *T*, to which is affixed lines leading to the engine, by which the wheel *e* may be clutched to the shaft *a*, (the axle of the car acting on the pulley *g* connected to pinion *f* by belt *h*,) and cause the chains *l l* to wind on the shaft *a*, and thus draw on levers *m m*, connected with the brakes *n n n n*, and cause them to stop the revolution of all the wheels.

Two lines are attached to the *T*, that may be carried to any part of the train, so that the engineer, or any person on the train, may, by means of these lines, govern the brakes, and stop the train.

The advantages of this brake are described in the specification by the patentee to be, that expense is saved in the smaller number of brakemen required. The train may be checked as soon as the engineer, or any one forward, descries danger; and the apparatus is more effectual and more certain for this purpose than the common hand brake. The danger arising from the brakemen jumping off, as they sometimes do, is avoided. In case of some of the cars breaking loose, as they sometimes do, the lines are so adjusted that the brake is put in gear by the very circumstance of the cars thus breaking loose, and thus the cars detached from the train are stopped, instead of drifting on the road as they otherwise do, to the great danger of the cars thus detached, as well as of the other cars of the train; (an instance of the security from this brake in such an emergency has actually occurred on the Boston and Providence road.) If the object be merely to check the speed and not stop the train, this is done by merely loosening the pulley band by means of the tempering screw, by which its degree of tension is regulated. The brake is of comparatively small expense.—The application of it does not prevent the managing the brake by hand or foot as heretofore, whenever this is preferred.

The principle and operation of this brake will be obvious to any person in the least acquainted with the subject, from the above drawings and description, and the patentee deems it to be quite unnecessary to enlarge upon its utility. The want of some ready and effectual means of controlling and stopping the train, in cases of emergency, has, as is well known, been the occasion of many disasters, and the great loss of lives and property.

The following letters, above referred to, give practical, and therefore useful, opinions: and we give them to sustain our own, formed from observation only.

"I have been employed for the last five years, by the Boston and Providence railroad company, in different capacities, *i. e.* conductor, engineman, way agent, and for the last year, I have had charge of the cars at Roxbury. During the above period, I have had occasion to use the many different kinds of brakes applied to the cars of this company, and I pronounce your patent to be the cheapest, safest and most durable brake that I have ever known applied to railroad cars. The advantages this brake has over the common or ordinary brakes, are perceivable by any practical man conversant with railroads.

Very respectfully, your obedient serv't,

S. HEUSTIS."

November 20th, 1840.

"During five years experience as an engineer, on the Boston and Worcester, and Worcester and Norwich railroads, I have had an opportunity to fully test your self acting brake. The advantages derived from this brake over all others, is perfectly perceptible from its manner of adjustment, and from the principle upon which it is mechanically constructed. In several cases of emergency, I have found it paramount in point of power, to that of six of the ordinary brakes which are in use on several northern roads—and I take great pleasure in recommending its general application to railroad cars, as being highly advantageous both to the proprietors and to the travelling public, as, in this, safety and economy are combined.

Yours respectfully.

GREENLEAF TURNER."

Boston, January 1st 1841.

We understand that the actual cost of constructing these brakes does not exceed twenty-five dollars. —ED. R. R. J.

Comparative Receipts on the South Carolina Railroads for 1847 and 1848.

The question was asked us more than once during the month of June, "is there not a falling off in the travel and transportation on the railroads, this year as compared with last?" and we believe that there was such an opinion prevailing to a considerable extent among those interested. Possibly such might have been the case during a *portion* of the first half of the year, but not as a uniform thing; and if we could compare the business of the two years upon all the American roads up to this time, we should find a very considerable increase in the aggregate receipts—from 15 to 20 per cent. we feel assured—and we predict that for the whole year the increase will *exceed* 20 per cent.—even though many of the companies have materially reduced their rates, both of fare and freight.

We have been favored with the following comparative statement of the monthly receipts upon the South Carolina railroads for the first nine months of 1847 and 1848—by which it will be seen that the receips for the first six months of 1847 exceeded those of 1848 by $7,795 04—but at the end of nine months the balance was the other way by $41,965 81, which will be largely increased by the close of the year.

Receipts on the South Carolina Railroads for the first nine months of 1847 *and* 1848.

	1847.	1848.
January	$67,123 67	$72,850 28
February	61,870 44	58,824 59
March	73,272 20	74,463 59
April	65,486 60	55,251 41
May	46,901 97	42,599 66
June	36,109 57	39,049 88
	350,834 45	343,039 41
July	30,930 26	43,964 59
August	35,502 67	48,498 77
September	57,248 85	80,979 27
	474,516 23	516,482 04
		474,516 23
Excess over same period last year		$41,965 81

Baltimore and Susquehannah Railroad.

The president of this company has, we understand, remitted to the treasurer of the State of Maryland, $3,000 on account of interest due to the State, making the sum of $50,000 which he has remitted to the treasurer during the company's fiscal year, ending the 30th September, 1848; exceeding the treasurer's estimate $10,000. This sum has, we are pleased to learn, been paid from the earnings of the road, notwithstaning there was a falling off of 16,000 in the gross receipts, as compared with 1847. The falling off in the receipts was entirely in the transportation, which was caused by the interruptions on the main line of the Pennsylvania improvements, from the great freshet of last October, and the burning of the Freeport-aqueduct in June.

The first annual report of the engineer of the Pennsylvania railroad company, gives the annexed estimate of the cost of a continuous road from Harrisburg to Pittsburg, in connection with the Allegheny Portage railroad graded by a double track throughout, except the branch to Hollidaysburg.

PENNSYLVANIA RAILROAD.

The following statement shows the estimate of the chief engineer for the opening and completion of this road to Pittsburg—excepting the section over the mountain, for which the Portage, or State road, of 36 miles, with ten inclined planes, is to be used, while the mountain section is being constructed. The inclined planes on the Portage road will doubtless be improved, and we may thus have better *test* of that mode of surmounting elevations, than has been heretofore had in this country.

The estimate is as follows, viz:

CONSTRUCTION.

Graduation

	Miles.	
From Harrisburg to Robinson's	132·67	$1,990,952
Robinson's to Hollidaysburg	6·33	32,000
Hollidaysburg to Johnstown	36·67	
Johnstown to Pittsburg	76·00	1,510,000
	251·67	3,537,952
Superintendence and contingencies		419,754
Superstructure.		
Including turnouts, on 215 miles		2,408,000
Cost of road		6,365,706
Interest account		450,000
Land damages and fencing		154,294
Grand total		6,970,000

To the above amount should be added, for the purchase of depot grounds, erecting of warehouses, and shops, and the construction of cars and locomotives, as follows:

Warehouses, including grounds at depots	$475,000
Shop and machinery	185,000
Locomotives	510,000
Passenger and burden cars	820,000
Total	1,990,000

Making the whole cost of the road, graded for a double and a single track laid, including outfit, $8,960,000.

It will not be necessary to expend the whole of this amount until some time after the road is in use to Pittsburg.

The amount of funds required to open the highway is $6,520,000, of which there is secured by public and private subscription, 5,250,000, leaving to be provided 1,270,000, which, with the amount necessary to stock the road with cars and locomotives, makes the aggregate 2,610,000.

This amount will be provided in good time, and the work put in successful operation at the earliest possible period. The work was too long delayed, of this the people of Philadelphia are now convinced, and it will not be allowed to lay by the way hereafter.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 14th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Oct. 16.	2,509 04	194,192 09
By Room Run "	2,809 12	101,531 16
By Hazleton	2,319 00	74,896 00
By Beaver Meadow	2,915 02	70,293 00
By Buck Mountain	1,768 13	60,283 00
By Spring Mountain	1,038 09	53,446 02
By Cranberry Mines	421 00	11,962 00
White Haven	49 18	8,720 10
Diamond Co	598 13	3,799 17
Total	14,429 16	579,124 14

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 19 h inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	10,877 11
" Pottsville	5,468 09
" Port Carbon	8,751 03
" Port Clinton	2,716 01
Total this week	27,813 04
Total this year	1,023,486 16

The amount of coal brought to market by the Schuylkill canal during the week ending the 19th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	8,144 19
" Schuylkill Haven	5,128 17
" Port Clinton	687 16
Total this week	13,961 12
Total this year	362,314 00

Recapitulation.—Total Shipments this Season.

By Lehigh companies	579,124 14
By Reading railroad	1,023,486 16
By Schuylkill canal	362,314 00
Total	1,964,925 10

Atlantic and St Lawrence Railroad.

This company has pushed on its operations with great spirit, and has accomplished much within the two years since it broke ground.

The present indications are favorable for a connection with the Canadian portion of the line, and we hope for an early completion to Montreal. We give the report of the engineer, which shows the condition of the work, and that it is progressing in a very successful manner.

ENGINEER DEPARTMENT.
Portland, July 10, 1848.

HON. W. P. PREBLE,
President St. L. & A. R. R. Co.

Sir: The period has arrived when it becomes my duty to submit a report of the operations of this department, during the year ending the 1st of July.

1. *Grading and Briding.*—At the date of my last annual report, there were 74½ miles of road located, 28½ miles under contract, and a considerable amount of work done. In the month of August last, the remaining portion of the line then located, was let to reponsible contractors, and the work soon thereafter commenced.

The grading of the first 11½ miles, with the exception of some heavy wood, was finished last year, and the whole, together with

the large amount of bridging on this division of the road, was completed in March last.

The second division, 17½ miles in length, was put under contract in November, 1846, but owing to the unfavorable weather during the succeeding winter and spring, only a small amount of work was done. The whole of this work, except one section west of the junction of the Androscoggin and Kennebec road, may now be regarded as substantially finished, nothing of consequence remaining to be done, except the trimming of the slopes and roadbed, giving a total distance graded, for the reception of the track, of 27½ miles.

The grading on a portion of the third division, comprising an additional distance of 11 miles, is rapidly progressing, and more than half the work done. This carries the road to Mechanic Falls.

The excavation and embankment have been laid out for a single track, having a width in excavation of 22 feet and 15 feet on embankment. Where there was a surplus of earth excavation over embankment, it was deposited in the roadbed, thus forming a double track embankment: and in some cases where there was a deficiency of earth in the cuts for embankment, the deficiency was made up by enlarging the cuts for a double track. The aggregate length of double track road is six miles.

The soil of the portion of the road now graded, is much of it of an unfavorable description, it being mostly hard blue clay, which on exposure to frost and rains assume an unstable and treacherous character. The slopes are liable to slide, and therefore require close attention and some additional expenditure to preserve and render them premanent. This is particularly the case between Portland and North Yarmouth, and also on sections 14 and 15. In several of the cuts, quicksand of a troublesome character have been encountered requiring much precaution to give stability to the roadbed. In all the cuttings where the soil is of an unsuitable character for the roadbed, the earth has been removed from 1½ to 3 feet below grade, and the space filled in with good material. The embankments, also, when formed of clay are covered with gravel, which is indispensable to a permanent roadbed. As your road advances into the interior, the soil is of a more sandy and gravelly character, and a considerable portion will require no additional ballasting to sustain the track.

In the construction of the larger and more important mechanical structures, provision has been made for a double track. Protection walls are also placed in a proper position to sustain double track embankment. The masonry of Presumpscot bridge, and other structures which cannot be enlarged hereafter without great difficulty and excessive cost, have been designed for a double track. The masonry of the bridges is formed of the best granite, laid in courses with alternate headers and stretchers, and is of the most substantial character. Nothing has been expended for ornament, but the whole has been planned solely with reference to economy and permanency. In the execution of the work for the Presumpscat bridge, difficulties of a formidable character were encountered. The site of the south abutment was at a point where the mud and water varied in depth from 3 to 12 feet below low water, and the average rise of tide was 10 feet. The surface of the rock was found to be extremely irregular, and covered with alternate layers of hard and soft earth, in which boulders and logs were embeded.

The irregularity of the rock and the unfavorable nature of the material covering it, rendered the use of piles for the foundation impracticable; and, for the same reasons, the adoption of a coffer dam, for the purpose of removing the earth and founding the masonry on the rock, would have been attended with delay and great expense.

The plan adopted was, first to remove the earth from the rock, which was done by an underwater excavator, after which to frame 12 inch hewn timber into squares of 3½ feet each from centre to centre, of sticks, by halving and spiking each at their intersection.—The first course was framed so as to fit the lowest part of the rock, and as the succesive courses were added, each was made to conform to the surface of rock, as the bearing was increased, till the woodwork covered the whole space for the foundation, after which it was carried up perpendicularly to a point 3 feet below low water, and upon this two courses of timber running in opposite directions, were spiked, upon which the masonry was commenced. Although a portion of the masonry rests directly on the rock, and another portion on a timber foundation of over 10 feet depth, no unequal settling took place during the progress of the work, nor has the least change since been observed in any part of the masonry.

A portion of the protection wall at this point was somewhat disturbed by the pressure of the embankment, which is over 40 feet high, on the soft material at the bottom, but proper measures were immediatnly taken which prevented any further movement. It has since been completed and incorporated with the wings of the abutment in a permanent manner, and appears of a substantial and durable character.

The masonry of most of the other bridges rests on pile foundation, and was laid below water line by the use of coffer dams.

The main walls of culverts are generally of substantial dry rubble masonry. the wings, parapets and coping being hammer dressed masonry.

The wood work of the truss bridges is constructed on the plan of "How's patent improved," having cast iron bearings. The plans of this work were prepared with much care, and with reference to the heavy engines and great traffic which will pass over the road. A much larger amount of material was required in the construction of the bridges than is usual on other roads, and it is so disposed as to give strength and stability to those parts which heretofore have first failed, and more durability to the whole structure. They are arranged for a single track, and such provision made as will permit the addition of a second track hereafter, without any interruption of the traffic of the road, or difficulty in the execution of the work. These bridges should all be cased and protected from fire and exposure to the weather, by tin roofs.

The total length of truss bridging on the portion of the road now graded, is 870 feet, which has cost an average of $17 12 per foot of bridge.

The total length of pile bridging is nearly three quarters of mile, and the whole is constructed for a double track. The pile bents are placed at distances of from 10 to 15 feet apart, and the distance from the floor of the bridge to the surface of the ground or bottom of the water, varies from 15 to 20 feet.

A draw has been constructed in Back Cove bridge of 35 feet opening, and is designed to accommodate two tracks. It is formed of four light trusses, which are operated by the rack and pinion, the trusses swinging on hinges. The trusses for both tracks move at the same moment, and by the same power, but in opposite directions; and those of each track approach each other in a parallel position as they recede from their bearings in the bridges, till they reach the wings of the draw, where they are folded together in a recess by a movement similar to a parallel rule. The time required to open or shut the draw is less than two minutes, which is done by one man, making six revolutions with a lever of 11 feet length.

The grading of the first and second divisions of the road being nearly completed, I have prepared the following tabular statement, showing the principal items of work, the number of yards per mile, and the average cost per yard. By contrasting these prices with those for similar work on other roads, the stockholders will be enabled to judge of the economy with which their road has thus far been constructed. It must be remembered that the cuts on nearly the whole line are of hard blue clay or indurated earth of other descriptions. Common excavation, by our classification, includes ordinary loam, sand, gravel, or any kind of earth which is not indurated, and the average cost of removing this has been but 9 6 cents per cub. yard. The whole has been executed at much less per yard than any work of similar character within my knowledge.

On other roads, owing to the high prices of provisions and labor last year, a great number of contractors failed, their contracts were abandoned, and the work relet at an advance of from 10 to 15 per cent. on the original prices; while on your road, the whole of the work under contract, with the exception of a comparatively small amount on one section, has been executed at the original prices, and at a cost below the original estimate.

The bridges, with one exception, have been built by contract, the contractors furnishing all the materials and performing the work at a given rate per lineal foot of bridge, and these prices are considered low, if reference is had to the character of the work.

These results must be gratfying to the friends of the enterprise, and are evidencec

of the ability and energy of the contractors.

The total estimated cost of grading and bridging from section No. 1 to 17, inclusive, was, ... $368,298

The total expenditure for the items on this part of the line, up to the 1st of July, is . . . 338,620

Showing an excess in the original estimate over expenditures up to that date, of . . . 29,678

The cost of the work remaining to be done will fall short of this excess.

Tabular Statement of Grading and Masonry from Section No. 1 to 17, inclusive.

Sec.	Grading.					Masonry.		
Length.	Earth excavation, cub. yards.	Loose rock, cubic yds.	Solid rock, cub. yards.	Embankment haul.	Protection wall, c. yds.	Masonry in culvert, c.y.	Do. in B. abutments.
1 2.12	54.341	1·200	10.241	65.782	13.999	185	1.420
2 0.96	17.140	4.430	454	17.951		436	
3 1.00	39.884		4 213	43.247		681	
4 0.95	96.202			96.202	4.803	472	2.742
5 1.00	28.446		885	28.050		400	
6 1.00	21.142			19.960		780	
7 0.93	16.235			13.842		461	
8 1.00	14.998		200	12.555		300	
9 1.25	21.145		1.190	16.812		354	
10 1.42	18.125	100	1.686	18.677		432	
11 2.50	32.500			10.000	100	257	1.000
12 2.35	62.000			55.000		458	2.000
13 2.40	86.600	100	250	80.000		976	
14 2.48	78.435	614	362	56.400		1.466	
15 1.93	53.000	180	800	53.000		506	
16 2.00	79.642	110	952	79.642	3 972	296	1.393
17 2.25	77.617	1.737	584	80.000	2.260	605	1.574
Total.	797.452	8.471	31.817	746.763	25.134	9.065	10129
Av. No of yds. pr. m..	28.981	307.6	792	27.115	912.6	329.9	367.7
Avera. cost pr cub. y.	$0.14.5	0.24	0·75·4	0·03.3	1.11.6	2.51	4.29.5

Tabular Statement of Bridges from No. 1 to 17, inclusive.

Description and location of bridges.		Length in feet.	Average cost pr ft. of bridge.	Total cost.
Pile bridge	at terminus...*	2233	$6 80	$15,184 40
"	Back Cove..*	1519	16 45	24,987 55
Truss	" Presumpscot R..†	320	20 00	6,400 00
"	" section 11 and 12†	264	17 68	4,667 52
"	" " 16 and 17†	286	13 40	3,832 40

* Double track. † How's patent single track.

2. *Track.*—The track of the road from Portland to Royal's river, a distance of about 11 miles, was placed under contract in February last, and the work has so far advanced as to permit the cars to run to North Yarmouth. The iron and timber required for the balance of the road to Mechanic Falls, an additional distance of 21½ miles, are contracted for, excepting that portion of the timber required between Danville and the latter place. The road may be opened for business to the junction of the Androscoggin and Kennebec road in September next, and the remainder of the distance to Mechanic falls, in November next.

The track of the road is formed of pine longitudinal sills, 7 by 11 inches square, embedded in gravel, tied together transversely by oak ties 2½ inches thick, and 6 in. wide, fitted into, and even with the surface of the sill, by a dovetail joint, and secured with keys of the same description of timber.

The iron is of the bridge pattern, weighing 63 pounds per yard, and is laid with a continuous bearing on the sills, being secured in its position by claw headed spikes, chairs, and centre plates. The gauge of the road, or the space between the rails, is 5½ feet.

There is half a mile of double track laid at the terminus, also side tracks leading to the engine house and to the works of the Portland company.

3. *Depot Grounds, Buildings, etc.*—Contracts were entered into early last year, for the construction of crib work and the requisite earth filling, to provide a site for the buildings at the terminus, and other depot purposes. This work was mostly finished last year.

A portion of the crib work has somewhat changed its position, in consequence of the great depth of mud, but it is now rendered permanent and secure. The line of the dock is parallel with the road, the approach to it by vessels made more convenient, and the whole is much improved.

In the month of May last, a passenger building, and an engine house at the terminus, and a building for the North Yarmouth station, were placed under contract. The passenger building is 200 feet long and 75 ft. wide, and is designed to accommodate, for the present, both the freight and passenger business at the terminus. It is of sufficient width for three tracks, and two platforms of 20 feet width each. The portion now erected is intended, for the present, to accomodate the several trains arriving at and departing from this station; and it is designed, hereafter, to carry out the building with a suitable front, to the east line of India street, which will furnish the requisite rooms for passengers and offices of the company.

This addition will make the whole length of the building 250 feet, and allow 3 tracks in it of 320 feet length each. If greater strength than this is hereafter required, it may be conveniently obtained by adding to the eastern end of the building. This building stands parallel to the dock and to the line of the road, the track approaching it on a straight line for the distance of half a mile

It is conveniently situated for the transfer of freight from the cars to vessels; and passengers going out or arriving in steamboats, have merely to cross a platform between the cars and the boat.

The location of your road is such at the terminus, that it is parallel with the harbor for the distance of half a mile, and for the whole of this distance, vessels have an uninterrupted approach to the road, where they may receive or discharge their cargoes directly from and to the cars. Such are the facilities, at the present time, that vessels now discharge their lading of iron, timber and other building materials, at any point within this distance, on the main tracks of the road.

The engine house is of brick, and it is only intended to accommodate the requisite number of engines for the business of the first few years, after which it will be useful for the storage and repair of cars. It is of sufficient capacity to contain six engines, and a turning table of 45 feet diameter. A small addition made to the building, at such time as the business of the road requires it, will give ample room for nine engines, and it will still be of convenient shape and an economical building for other purposes, when superseded by an engine house of the requisite dimensions to accommodate the business of the whole road.

The passenger station at North Yarmouth will probable be finished the present month, and the freight business of that place may be accommodated, for the present, by the use of the building purchased with the lands of the company at that place, which it is proposed to move to the point required for that purpose.

The plans of buildings required for other stations are matured. The drawings and specifications are in progress, and will soon be submitted for the consideration of the board.

Two turning tables have been constructed which are respectively 25 and 45 feet in diameter. The large table is now in use and operates satisfactorily. The small one is designed for the station to which the cars may run during the coming winter.

4. *Machinery for the Road.*—Two locomotives have been purchased to provide for the immediate necessities of the road. One has been in use on the road a considerable length of time, hauling gravel, timber, iron, etc. The other will be used for the passenger business till other engines are completed and will also aid in the transportation of building materials.

There have been ordered from the works of the Portland company. three engines, six passenger cars, two baggage and mail cars, thirty enclosed freight, ten platform and twenty earth cars. There are now delivered and in use on the road, two passenger, four platform, and eight earth cars. The work on the engines is progressing, and the builders hope to deliver one by the first of September, one in October, and the third in season for the spring business. Two passenger and all the earth and platform cars are to be finished by the first of September, and the remaining passenger, and all the enclosed freight cars by the first of November.

5. *Surveys.*—A careful survey has been made during the last year, of the whole country between Paris, (the point to which the final location of the road is made), and the province line. The total length of line surveyed is over 150 miles, which includes the survey of several subordinate routes.

A line was traced, during the last autumn and winter, through the Little and Great Androscoggin valleys, the Ammonoosuc valley, and on both the New Hampshire and Vermont side of the Connecticut valley. Surveys were also made for a branch to Lancaster, and to test the practicability of carrying

the main line to that place, through the valleys of Moose and Israel's river.

There are several routes by which the boundary line may be reached, all have been instrumentally examined, except that by the Nulhegan valley, the surveys of which are now progressing. These surveys will be completed the present summer, and the result of the whole will then be submitted for the consideratton of the board.

These routes diverge in the Connecticut valley at a point about 22 miles south of the province line, and again unite near Lenoxville, in Cannda, a distance of about 25 miles north of the boundary.

This required that the provincial corporation should cooperate with you in the survey of these routes, and I am happy to state, that thus far the surveys have advanced in concert, and will be completed on each side of the boundary at about the same time. When the question of junction shall have been definitely settled, the whole route of your road may be regarded as determined.

The disbursements through this department for surveys and construction up to the 1st of July, were $454,844 90.

In conclusion, permit me to urge the importance of completing the road and of opening it for business to Mechanic Falls the coming autumn. The grading will be finished at an early date, and it only remains to obtain the timber and lay the track, to bring into use this additional piece of road. Mechanic Falls is an important point, from which roads diverge in every direction, and to which the trade and travel of the surrounding country will naturally concentrate. By extending it to this point, a large additional trade will be secured to the road, which otherwise will pass through other channels to market.

I have the honor to be, Sir,
Your obedient servant,
A. C. Morton,
Chief Engineer.

To the Stockholders of the Atlantic and St. Lawrence Railroad Company:

Gentlemen: In compliance with your vote passed at the last annual meeting of the company, I have the honor to present the following brief statement of the receipts and disbursements of the treasury to the 1st of July inst.

There has been receive to the above date, from assessments on shares in the capital stock,	$565,752 64
Rents, interest, etc.,	2,356 89
Bills payable,	58,854 20
Total,	626,963 73
The amount paid and finally chargeable to cost of road and its equipments, is, for land damages,	28,158 04
For depot lands,	51,760 00
For fencing,	8,818 67
For interest and office expenses,	18,884 55
For sundry accounts, including grading and masonry, bridging, superstructure, engineering, etc.	505,096 13
For cars and engine,	7,953 80
Total expenditure,	$620,671 19

Of the item bills payable, the sum of $36,000 is for the purchase in part of the depot lands, for which the company's notes are outstanding, maturing at various times, from one to fourteen years hence, and secured by mortgages of the premises. The balance is for temporary loans, in anticipation of receipts from assessments.

The directors, in addition to the advance payment at the time of subscription, have made sixteen assessments, the last falling due the 1st of August next.

Charles E. Barrett, Treasurer.
Office Atlantic & St. Lawrence R. R. Co.,
Portland, July 24, 1848.

Memorandum.—The above account of disbursements does not include work done, and purchases of iron, timber, etc., made, but not yet due and paid for. These latter items may be safely estimated at something over $50,000. Wm. E. Preble, President.

Boston and Maine Railroad.

ANNUAL REPORT, SEPTEMBER, 1848.

Few roads in this country, commencing on so small a scale, have grown to such importance. It was at first, if we recollect, a mere *branch* from the Lowell road at Wilmington, 15 miles out of Boston, to Andover—and its capital about $100,000! It is now one of the important lines out of Boston, showing an outlay of over *three and a half millions*, and paying good returns on that.

We consider this one of the best managed railroads in the country. It has been always gradually extending its operations—increasing its usefulness—of course increasing its outlay of capital—yet always *foremost* in reducing its charges, by which its business has steadily increased, the people have been accommodated, and the shareholders have received large returns, or from 6 to 10 per cent. *per annum.*

Such extensions could not have been accomplished, and such returns made to the shareholders—with a rival, or competing road, within *fifteen* miles, to divide the traffic, and an outside *steamboat line*, in addition to the railroad, to divide the through travel—except by the very best of management.

The report speaks for itself, and we give it entire—and ask those who pursue a different course of policy in their rates of charge, to investigate the causes of a success which has induced a *further* reduction of passenger fare to $2 through, 110 miles, and to *two cents a mile for way fares.* If this can be done on this line, with their *double* competition, how much more successfully it might be done on the *great thoroughfare between New York and Philadelphia*, if monopoly was abolished, and fair competition introduced through New Jersey.

REPORT.

Soon after the annual meeting last year, it was determined by the directors, that preparation should be immediately made for the purpose of extending the double track of the road the whole distance from Boston to Lawrence. Contracts were accordingly made for the rails to be imported from England, and in the mean time, the roadbed and materials were to be prepared to receive them; and are now in great forwardness. The culverts and bridges had been originally constructed for the reception of a double track.

On the 1st of July last our passenger trains were withdrawn from the old track of the road through Andover, and run over the new track through that town to Lawrence; thence along the south bank of the Merrimack river to the old line of road at North Andover.—Thus the whole distance of 32 miles from Boston to the Merrimack river at Bradford, over which we ran our trains in 1845—25 miles, including 15 miles of the Boston and Lowell railroad, have been superseded by the construction of 26 miles of road. These changes have occasioned a large expenditure of capital, as our repair shops and buildings for all kinds of work, which were on the line of the old road at Andover, must necessarily be abandoned, and others built to replace them, together with passenger and merchandise houses. It is believed, however, that the premises at Andover are so favorably located, that they may be readily sold.

The railroad bridge at Lawrence is completed; and we now deliver our passengers into Lawrence, upon the north bank of the Merrimack river. Tracks for merchandise extend along the canal, affording the most perfect railroad accommodations to all the present or future manufacturing establishments at that place. We are constructing about four miles of railroad through Lawrence and Methuen, to meet the Manchester and Lawrence railroad now building, at the line of the State of New Hampshire; and the whole of that road is expected to be in operation by the 1st of July next, thus opening a most important line of communication between the county of Essex, in Massachusetts, and the interior of New Hampshire, and lessening the distance between Manchester and Boston five miles. Lawrence is favorably situated for a great thoroughfare by railroad, when all the proposed roads entering there shall be completed. The Lowell and Lawrence railroad, and the Essex road, from Salem to Lawrence, now use our track, bridge and depot at Lawrence, and propose to make permanent arrangements with this corporation for their continued use; and our buildings at that place, are projected with reference thereto.

The Cocheco railroad, intersecting this road at Dover, is now under construction at Rochester, and will ultimately be continued to intersect the Boston, Concord and Montreal railroad at Meredith. The distance from that intersection to Boston, is represented to be the same by way of Dover as of Concord. The Great Falls and Conway railroad have about six miles of their road from Gt. Falls to Rochester, under construction, and propose to extend it without delay to the Three Ponds at Milton: these roads are mainly designed to open a railroad communication between the interior of N. Hampshire and Vermont, and the tide waters at Dover and Portsmouth, Yet this road must derive a benefit from their construction, as also from the construction of the Atlantic and St. Lawrence railroad at Portland, and of the Portlaud and Kennebeck and Waterville and Lewiston roads, all of which are about to be opened to some extent.

An act was passed by the legislature of Massachusetts, in May last, authorising the Eastern railroad company to extend their road

into the city of Boston proper. By this act, they are authorised to take from this company one half of our railroad bridge over the Charles river, paying therefor to the company one half the cost. They are also authorised by this act, to take to their own use the wharf, lands and buildings we occupy for our merchandise department at Boston, conditioned only that when their track is extended to Causeway street, in Boston, it shall not be less than 50 feet distant from our merchandise house. The act secures us in our present double track into the city for passengess by declaring that the Eastern railroad company shall not take the eastern half of our bridge *without our consent.* If the Eastern railroad company shall determine to avail themselves of the provisions of this act, it would inflict an injury upon this corporation which it would be impossible to estimate by the ordinary mode of assessing damages: inasmuch as it would deprive us of the use of our freight arrangements in Boston, and would involve the necessity of demolishing our engine house and machine shop at the Island Wharf in Charles river. The damage to the stockholders, in dollars and cents, can be recovered by law; but their interest sink into insignificance, in comparison to the damage that would be sustained by the whole community, transacting their business over this road, in Massachusetts, New Hampshire and Maine, to which States, unitedly, this company owes its existence as a corporation.

The widening of the railroad bridge across Charles river, has been represented by a committee of the legislature of Massachusetts, as a misdemeanor and a violation of the public rights. If it is so, the officers of this company have proceeded under a mistaken construction of the law. The widening of the bridge was commenced with the knowledge of the commissioner appointed by the governor and council of the commonwealth to direct its construction, about four years since; and we have continued to widen it as the accommodation of the public in the transportation of freight over the road, has, from time to time demanded, up to January last. During this time, not a single complaint from any source was made known to the company.—The committee made the report upon *ex parte* and secret complaints, as is believed.

Independently of the acts of the legislature of Massachusetts the last year, the prospects of the continued success of the road is undiminished; but the general depression of the manufacturing interest along the line has, in a slight degree, reduced the income from this source, for a few months past.

On the 1st of July last, we reduced our passenger tariff from 2 60 to 2 25 cents per mile. The receipts for July last fell off from those of the corresponding months of last year; but in August there was a gain over August last year. We have also modified our freight tariff, for the purpose of establishing a more uniform rate on the whole line of road, which amounts to a small reduction on the whole.

The undersigned, from indisposition, has been unable to attend to many of the duties he has been accustomed to perform in his office for some months past; and has proposed to retire from the board of directors; but, at the request of the directors and others interested in the road, he has consented to his name being placed on a ticket for re-election, with an understanding, if elected, that such duties only shall be expected of him, as he may find his health will permit.

The treasurer's report is herewith submitted. THOS. WEST, Pres't.

TREASURER'S REPORT.

The treasurer hereby submits the following statement of the financial affairs of the corporation:

The amount of old capital paid in, on Sept. 1, 1848, was		$2,894,741 52
New capital stock paid in		341,800 00
		3,236,541 52
Debts exclusive of unliquidated claims against the corporation:		
State loan, due 1857	$100,000	
" 1859	50,000	
Bonds due at future periods	32,000	
Bills payable	70,870	
		252,870 00
Unpaid dividends		3,321 00
Reserved profits		23,159 61
Sundry accounts, including earnings of the road in June and July, 1848.		112,310 59
		3,628,202 72
Amount expended on the Massachusetts portion of the railroad, to Sept. 1, 1848, including the Medford and Methuen branches		$2,237,501 55
Amount expended in New Hampshire including Great Falls branch		812,084 26
Amount expended in Maine		67,093 43
		3,116,679 24
Locomotives and cars		213,527 80
Cash on hand		16,814 89
Bills receivable		62,824 67
Sundry accounts, including expenses of the road, new cars, machinery, etc		218,356 12
		3,628,202 72

Receipts and expenses for the financial year ending June 1, 1848, *to which time the accounts of the corporation are made up.*

RECEIPTS.

Reserved profits, June 1, 1847	$34,491 80
Reserve of account of repairs of engines and cars, June 1, 1847	16,000 00
Passenger fares	347,308 19
Freight	187,778 74
Mail	6,528 23
Rents	4,727 93
	596,834 89

EXPENDITURES.

Repairs of engines	32,110 50
" passenger cars	11,432 10
" freight "	7,648 00
" gravel "	1,120 15
" road in Mass	15,634 39
" " N. Hamp.	13,668 63
" " Maine	598 42
" depot in Mass	2,709 92
" " N. Hamp.	2,713 57
" " Maine	516 24
" bridges in Mass	447 23
" " N. H.	290 80
" fence in Mass	2 50
Care of bridges	1,303 69
Clearing snow	32 25
Merchandise expenses	19,030 08
General expenses	19,210 97
Portland, Saco and Portsmouth railroad company toll	22,668 00
Wood account	44,921 09
Wood and water account	12,540 08
Oil	10,808 53
Depots and offices	13,926 20
Conductors and brakemen	12,751 88
Engine and firemen	15,536 78
Taxes, including N. H. State tax	6,636 86
Interest	14,870 71
	280,129 67
Net profits	316,705 22
Dividend of $5 per share paid Jan. 1, 1848	119,015 00
Dividend of $4 50 per share paid July 1, 1848	433,834 50
	252,849 50
	63,855 72
Charged off for depreciation of engines and cars	40,000 00
Charged off forbad debts	696 11
	40,696 11
Reserved profits, June 1, 1838	$23,159 61

All of which is respectfully submitted.

E. PICKERING, Treasurer.

Boston, September 1, 1846.

Preservation of Timber for Sleepers.—Messrs. Hutin & Boutighy have obtained a patent in France, for the preservation of wood intended for railway sleepers; the process of which depends on filling the pores at each end with a bituminous cement, after the ends have been previously charred. The process is thus described: "Immerse the ends of a piece of wood in some liquid carburetted hydrogen, such for instance, as the oil of schist, which penetrates quickly some distance into the wood. 2. Set this carburetted hydrogen on fire, and at the moment the flame has burnt out, plunge the wood to the height of a few inches into a hot mixture of pitch, tar, and shellac, which will be slightly drawn up between the fibres, and form, at each extremity of the wood a kind of hermetical seal, unalterable by moisture and air. 3. Coat the wood with tar over its whole surface by the ordinary methods." A process nearly similar was not long since commuicated to the Paris Academy of Sciences, by M. Gemini. In his plan, tar is used for the purpose of filling the pores of the wood, without the addition of any substance. He encloses the wood in a cylinder, wherein it is dessicated by high pressure steam. A vacuum is then produced and additional force is given to the tar in its penetration of the fibres of the wood by a force pump.—*C. E. & A. J.*

Magnetic Telegraph.—Mr. N. Holmes, who is in the employ of the Electric Telegraph Co., has made an improvement in the magnetic telegraph which promises to be of great utility. The invention is thus described: "It may not be uninteresting to record the recent improvement I have made in reducing the expenditure of battery power to 1-10th of the amount required before; so that now, instead of working on the long circuit (a distance of about 250 miles) with an equivalent of 240 pairs of plates, 24 pairs do duty, with a much more effective result—the reduced intensity not suffering so much by the effect of bad insulation. The most important point is the economy of power when it is applied to the numerous stations throughout the kingdom, and the increased facility of working through a much larger amount of circuit resistance. The addition consists in the substi-

tution of a single small steel lozenge, three quarters of an inch long, for the two 5 inch astatic magnetic needles, and placed between two small coils, of peculiar shape. This form has the advantage, besides those already already mentioned, of giving a signal free from that constant vibration of the needle, against which so much has been said—the penulous action of gravity being very limited, from its better adapted form."—*Ibid.*

JAMES LAURIE, *Civil Engineer.*

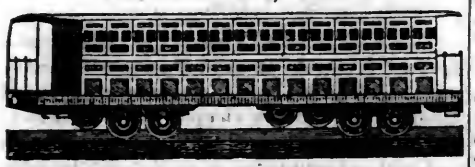
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.

October 14, 1848. 6m*

CAR MANUFACTORY,

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, October 2, 1848. 4tf

TO CONTRACTORS.

GREAT LETTING OF WORK ON THE CLEVELAND, COLUMBUS & CINCINNATI RAILROAD.

PROPOSALS will be received at the office of the engineer, in the city of Cleveland, until the 1st day of November next, at noon, for the grading, bridging, and masonry, also timber for the superstructure of one hundred and thirty miles of the Cleveland, Columbus and Cincinnati Railroad, lying between the cities of Cleveland and Columbus. Said work comprises some of the finest ever offered to contractors, and will be let in long or short sections, as may be desired. The approximate quantities are 3,500,000 yards earth excavation, 30,000 perches masonry, 300,000 cross ties, or sleepers, etc.

Plans, profiles and specifications of the work will be ready for inspection at the offices in Cleveland and Columbus on and after the 15th of October next. Payments will be made monthly, on a fair average value of work done; twenty per cent. of which will be retained to ensure fulfillment of contract.

FREDERICK HARBACH, Eng.

September 21, 1848. 3t41

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN, ELIJAH PACKARD, ISAAC MILLS, } SPRINGFIELD, MASS.

1y48

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The ridiculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.

September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS EOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper."*

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
Philadelphia, Pa.

y25

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Maudslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP &. SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York,

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON—SHEET IRON—BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC. Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
	New York and Erie Railroad;

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

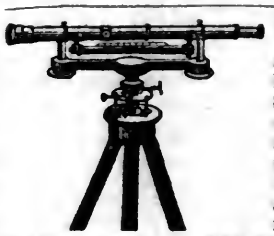
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.
ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.
Kensington, Philadelphia Co., March 12, 1848. 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



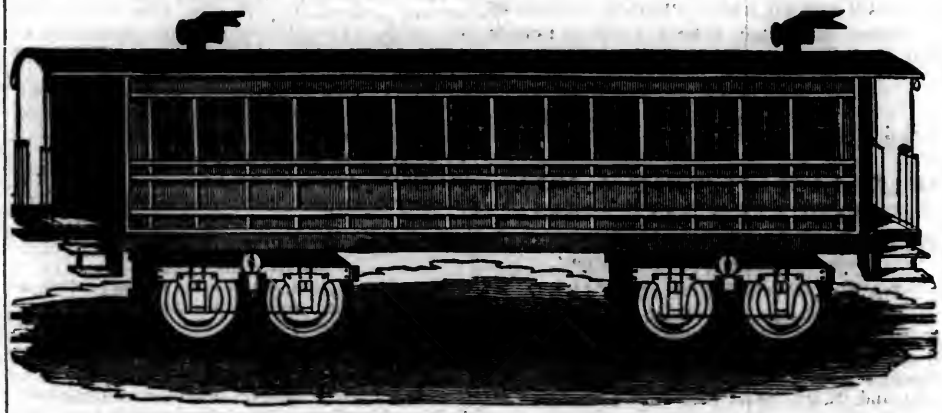
Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ed barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year, on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Mouroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

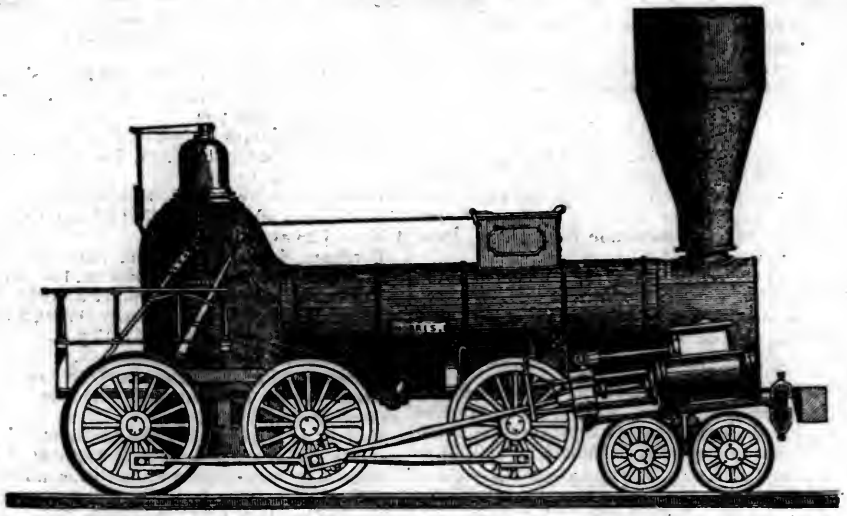
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without it is said. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Bratleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.


This Road in connection with

the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 40	0 6½
	Cotton, per 100 lbs.	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel	2 50	4 25
	Salt per bushel	0 18	
	Salt per Liverpool sack	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.


This Road is open for the transportation of Passengers and

Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil) ..... $1 50 per barrel.
On brls. dry (except lime) ... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery ..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons .....$5 00 per hhd.
On molasses and oil .....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

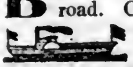
The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the


Trains will run as follows:


Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after

Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.
Summer Arrangement.


Commencing July 3d, 1848.


Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

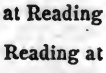
The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.


A Passenger Train will leave

Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAIL-Road. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.	6 P.M.
Going east.		**1st train**	**2d train.**	**3d train.**
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, Jr.,
Secretary of the Convention.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia:..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WEST-ern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western.....	101
Atlanta to Oothcaloga—Western and Atlaniic..	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....	0 20 pr. 100lbs.	35
Crockery, per cubic foot.....	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....	1 25	1 50
Ploughs, (small,) and Wheelbarrows.....	0 80	1 05
Salt, per Liverpool Sack.....	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

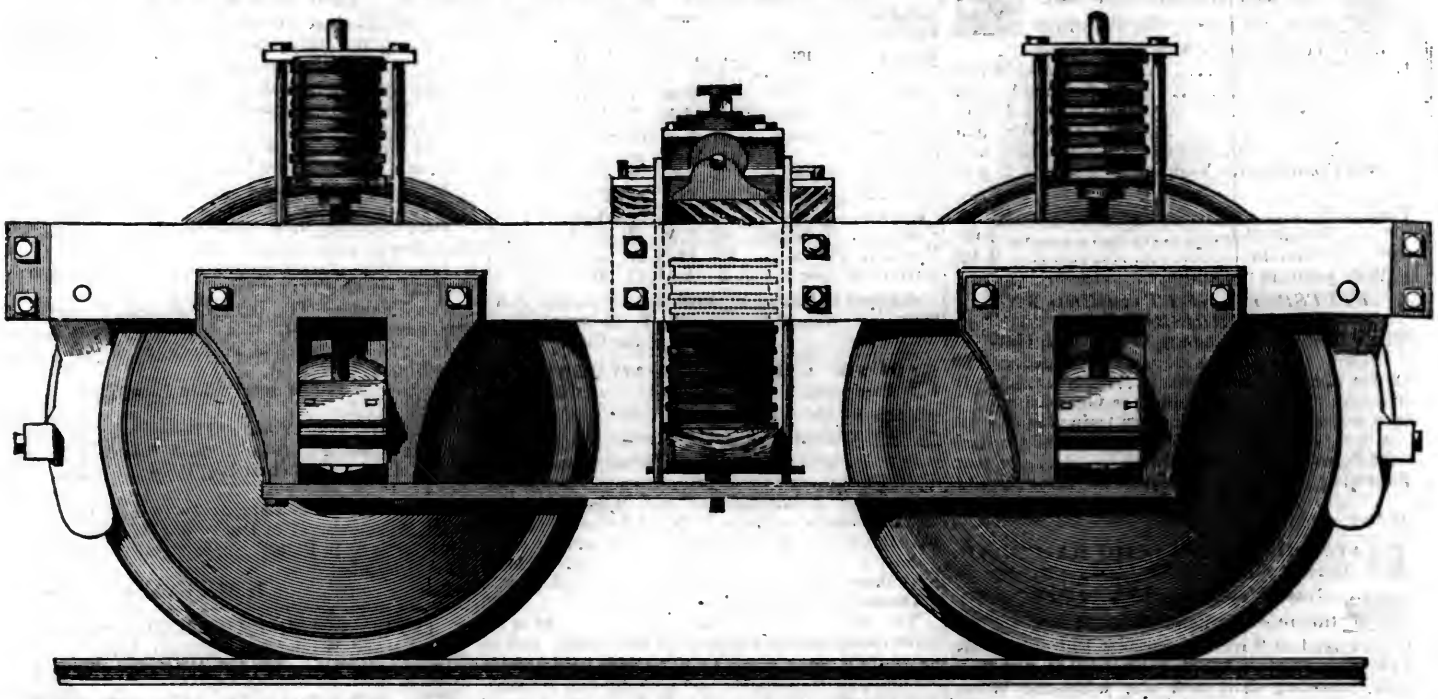
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company; on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance*.

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 45] SATURDAY, NOVEMBER 4, 1848. [WHOLE No. 656, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, November, 4, 1848.

☞ REMOVAL.

The Office of this Journal is removed from the *Franklin House*, to No. 48 SOUTH THIRD STREET, *third door north* of the *Girard Bank*.

⁂ A *special request* is hereby made, to those to whom Circulars have been recently addressed, that they will respond promptly to them, as an important question—to *us* at least—is to be decided in accordance with the response given to the request made in those circulars.

RAILROAD IRON.

THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.
New York, October 25, 1848. tf

TO CONTRACTORS.

BURLINGTON AND MOUNT HOLLY RAILROAD.—Sealed proposals will be received by the subscriber until the evening of the 13th of November next, for the Grading, Bridging, and Masonry of the Burlington and Mount Holly Railroad, about seven miles in length.

Plans, profiles, etc., may be seen, and all necessary information obtained of H. L. Southard, at the Engineer's office, in Burlington, after the 10th of November.

The company reserve the right of rejecting all bids deemed incompatible with their interests.

ROBERT S. VAN RENSSELAER.
Burlington, October 39, 1848. 2t45

RAILROAD IRON.

THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to

COOPER & HEARTT, Agents,
17 Burling Slip, New York.

October 30th, 1848.

The Western, or Boston and Albany Railroad.

We published in the Journal for October 21st, a letter written in May, 1837, by two of Boston's most eminent merchants, showing the position in which this noble work was then viewed by its most devoted friends, and stockholders, themselves among the number. We also showed the progress of the work up to February, 1839, or nearly two years subsequent to the date of that letter, notwithstanding the discouraging circumstances of the times when it was written; and we now propose to show *how* the means were raised to continue, and extend, operations upon the line, and finally to complete the work to Albany, and thus secure to the people of Massachusetts, and to the city of Boston more especially, a free participation in the business of the New York canals, which in no other way could they obtain.—We were aware that there was, at one time, considerable difficulty in the financial affairs of this company, and much doubt as to their ability to complete the work; but never knew the particulars, until recently in Boston, in conversation with a gentleman whom we knew to have been an efficient actor in the accomplishment of this great enterprise, who read to us a *memoir* prepared in 1842, when the work was completed and in successful operation, setting forth in a very clear and forcible manner the condition of the enterprise in 1837, and the *manner* in which it was carried forward to completion.

After having listened with deep interest to the reading of this interesting document—and asked numerous questions in relation to the subject—we asked of the writer the privilege of publishing it for the benefit of other companies, and other communities, which are now, or may be hereafter, placed in similar circumstances. He said that it was not *designed* for publication, but was prepared for a specific purpose, to which it had been, though unsuccessfully, applied; and that he had only read it to me in answer to my inquiries for information in relation to the early history of the Western railroad; yet, if we thought it useful to the cause, he had no objection, and thus it is that we are now allowed to add this interesting chapter to others in the Journal for future reference, when the history of our American railroads shall be written. We give it entire, and in the language of the writer, which is often energetic and eloquent, and always clear and forcible. It shows what *may be accomplished*, in a good cause, by good judgment, tact, and indomitable perseverance; and the importance of first deciding what is *necessary* to accomplish the object in view, and of then asking for all that is needed, and adhering resolutely to the point, and yielding *never* until the end is attained.

The memoir was addressed to a committee of the board of directors, and is as follows, viz:

[No. 1.]

Messrs. JOHN W. LINCOLN, ABM. T. LOW, and JOSIAH QUINCY, Jr., *Committee.*

Boston, September 27, 1842.

Gentlemen: Previous to the loan of the credit of the state, in 1838, the Western railroad was in progress from Worcester towards Springfield.

January 1, 1838, 27 miles only were fully graded, ready for the superstructure, and the grading was going on (with reduced force) for the whole unfinished distance, between Springfield and Worcester, except two miles adjoining Connecticut river.

West of Connecticut river, the surveys had been made, and the whole was ready to be put under contract.

Only $20 per share had been assessed on the stockholders.

Propositions were seriously entertained and made, of arresting the work entirely, and abandoning the enterprise, and dissolving the corporation, for fear of its power to lay further assessments. Many of the stockholders were selling out and giving away their stock, to men of weaker purse.

In their brief statement of facts, dated 15th January, 1848, for the use of the legislature, the directors state that "*without further aid from the legislature they must order the work to be discontinued in February* 1838, thereby incurring great damages to contractors, and to the farms and sections of country thro' which the road passes."

"If the work is entirely abandoned (says this statement) there will be a loss to the individual stockholders of $400,000, and to the state, (as a stockholder) of $200,000.

"The character of the state will suffer deeply, and our citizens be discouraged from attempting hereafter any great public work."

From November, 1836, to May 11, 1837, (the day of suspending specie payments in Boston) money ranged from 1½ to 3 per cent per month. It became apparent that the corporation could not lay and collect assessments, to carry on the work. To carry on the work, it became necessary to invent some mode, out of the common course, whereby the money could be borrowed at a reasonable rate. It became necessary to invent the mode, and then to cause its adoption by the stockholders, by the directors, by the people of the commonwealth, by the legislature. Such was the problem to be solved.—The solution of this problem was, with me, a subject of deep reflection. To borrow the money at home, even if practicable at all, on the credit of the corporation, could only be done at ruinous rates. I looked at the subject in all its bearings; and finally, in July, 1837, I resolved to place the comparatively low price of money in London, within the reach of the Western railroad, by obtaining from the state the loan of its stock, payable in London in 30 years, to an amount making up its whole capital, viz: $2,400,000. I so resolved, after convincing myself that the interest and the honor of the stockholders, the honor of the State and the public interest would be eminently subserved by this being done. I then cast about, for associates in this enterprise of obtaining the loan. Every one, almost, whom I consulted, inclined to the belief that this measure would promote the public good; but deeming success impracticable refused to join in the attempt, and threw an icicle in my path. The remarks of the president of the road were peculiarly encouraging. At last, after two months trying in vain, I found one man (Thos. R. Sewall) who thought there might be a possibility of success, and he agreed to try. I then felt strong.—Mr. Sewall, at my request, brought to my house a friend of his (Henry Sterns, of Springfield) and there was held (with the imposing form of having Henry Sterns chairman, and Thomas R. Sewall secretary) a meeting of *three* persons in all; being the first of that series of meetings which produced success. In this meeting, Sterns said that (before he would embark) he desired to consult a friend he named; and if this friend thought it would do, he would then enlist. From the discouraging replies previously given to me, by hundreds of persons, I thought Sterns would of course get an answer fatal to his enlisting—and although this was the first time I had ever seen Sterns, and although he was under my roof, I replied with great warmth, that "if instead of consulting *his own* sense of what the state was bound to do, by its own honor and its own interest—and if instead of abiding by his own compass, he was willing to veer about, by the compass of other persons—he was not the man for me; and we must move without him: because the only way which could ensure success, was for each one that enlisted to become convinced for himself that that this was a proper measure, and then to pursue it, even if all the world seemed to be of an adverse opinion." I then gave him, from my own experience, instances of success of the policy I recommended: aye, of striking success, in despite of very discouraging circumstances, and in despite of the opinion of every man when first asked. He stared, looked amazed, paused, and finally agreed to move on his own opinion. Soon after this, we received the very valuable acquisition of Wm. Savage, John Henshaw, Francis Jackson, and many others. Meeting after meeting was held at my house, taking care to add but few new members to each caucus meeting, and to have at each meeting some new and good reason given for our plan. A request was made to the president to call a meeting of the stockholders, to propose to them our plan. This request was refused. Meanwhile, our caucus meetings grew stronger and stronger. More and more patriotic and talented men came to them. We moulded, more and more, public opinion. We convinced. We inspired enthusiasm, and finally succeeded in procuring the signatures of stockholders holding a sufficient number of shares, to make it imperative on the clerk to call the meeting. The clerk notified the meeting accordingly for the 23d Nov., 1837. At this meeting, an address to the people, prepared by me, under the revising care of several of our previous caucus meetings, was adopted, and ordered to be distributed to the governor, lieut. governor, counsellors, senators, and members of the house of representatives, and to the stockholders; and a sufficient number of extra copies were printed to diffuse throughout the public the reasons presented in the address for the consideration of the people of Massachusetts.

Our very numerous caucus meetings had reared so many monitorial teachers, that every member of the legislature, in the natural course of his walks, found either previous to his arrival, or on his arrival at Boston, in January, 1838, some friend, in whom he had confidence, ready to explain and to demonstrate the advantages of the loan. Nor was this done in the dark. It was a plan of campaign frankly avowed, in the public, as well as private, caucusses. It was avowed in the public caucusses, which the members of the legislature were invited to attend once a week, during the whole session.—The plan of campaign was openly avowed to be an unremitted attention, to throw the clearest possible light on this great subject; and at every one of our meetings, the researches of the inventor of the loan enabled him to present some new reason in favor of the plan proposed.

Thus was a correct public opinion of the masses formed—a public opinion founded on conviction of the public good which this measure would produce; a public opinion which impelled the whig leaders to move for the loan; a public opinion which inclined the opposite party to fight against it rather a sham-battle, furnishing us even some of our best soldiers.

The idea, in this campaign, of convincing the masses, was my own, and was characteristically different from the usual plan of looking to the leaders to carry the measure. Had we looked to the leaders, instead of taking the needful pains to convince the masses, we should have failed; *because* in the then state of parties, it was too bold a measure for the leaders to dare to attempt to carry. They thought it was too great a risk to take, either for themselves or for their party. Besides, in a house, such as it was, impatient in prolonged debate, it would have been impossible to occupy the attention of the house for a length of time sufficient to make the house thoroughly understand this new science; and if they did not understand it, they would of course very properly vote against the loan.

The best documents of reasonable length, which could be procured, elucidating the subject, were printed and distributed to the members of the legislature, and to the people generally.

That mighty engine, the public press, was very early taken care of, by inviting its conductors, and their friends to partake in our deliberations; and at the proper time, the aid of the press was not found wanting, among the various parties. They that could not agree in religion, in politics, or in the 15-gallon law, mingled in common praise of the Western railroad. Men engaged in other projects, before the legislature, have frequently wondered how it was that we could thus make the press come out, even editorially, at the right time, and in the right way. My answer has been "that we did it by taking the trouble, in early season, and with unwearied industry, to *convince* the editors that the adoption of our plans would eminently subserve the public good."

The Erie canal act, after being a subject of discussion for very many years, passed by a majority of one single vote. The large majority, by which the Western railroad loan of $2,100,000 was enacted, within eight months after it was found so very difficult to get even one individual to join in the campaign, sufficiently attests the goodness of our cause, the soundness of its first conception, and the untiring industry, and clearness of explanation, applied to convince the members. It does great honor to those members, who were willing to listen, and to be convinced, by patient investigation, of the merits of this new science; to be convinced of the commanding claims of this new project upon all patriotic citizens.

Thus it is, that this Western railroad loan, by me invented, just at the nick of time, and carried by debate, out of the house, saved the road. I would not be understood as unconscious of the highly meritorious exertions of the present president of the company, of the treasurer, and of other gentlemen, in carrying the measure. But none of them bring to it the claim of being the first inventor of this loan; the claim of the first resolve to carry the measure, just at the nick of time; the claim of centralizing, and combining, the various elements of success; and the claim to have settled, as a fixed plan, the convincing of the masses of men, and of each individual member. Without the first resolve, adopted just when it was, the bill for the loan would have had no birth; and without the unshrinking and unceasing vigilance, which I applied to it, unflinchingly, as to not reducing the sum below $2,100,000, the loan would have been frittered down to the insignificant sum of $300,000—or would (as was seriously proposed to me) have degenerated into a complimentary report, referred over (with our consent) to the next general court.

By this systematic attention to convincing the members of the legislature, we were enabled to judge pretty accurately, of the yeas and nays beforehand; so as to know when the proper time had arrived for our friends to push the measure. The vote of each member, resting on demonstration, as does a problem in Euclid, assumed its certainty. We knew that he who was convinced that we were right, would vote for the bill; and we knew this, while the so called leaders of the house were yet unconscious of it. And there was nothing secret, or dark, or mysterious, in this our mode of action; for we avowed our unshrinking determination to explain all, in the clearest manner, to every member of the two houses, and indeed to every member of the community; and whenever fault was found that we did throw this light, we replied "that we felt proud of

it; that, having a good cause, victory was ours, if that cause was clearly explained."

In the first conception of the loan, and during the intense labor of every kind to carry it to success, it was natural for the inventor of the loan to suppose that the care of selling the stock, created by his invention, would be confided to him with a very liberal commission. Of its being so confided, the inventor had no doubt. He was much surprised that this was not done; especially as the stock was known to be in his line of business. The unceremonious way in which the votes of the stockholders, regarding his individual interest, were laid on the table by the directors, and the long sleep of these votes on the table of the directors, will now, it is to be hoped, lead to prompt action and to full justice. Better late than never—*even though better never late.* More would have been said by the inventor, at a time earlier than the present, if he had not prefered keeping a single eye to the great purpose of finishing the road, postponing the more intense consideration of his individual interest, until the road was snugly moored in a harbor of safety. It is not, indeed, until the end is attained, that we can best judge of the productive value of the measure, and of the mental labors producing that end. Without those labors, that end, now so gloriously within our grasp, would still be seen only in distant and unknown futurity.

The treasurer will doubtless testify that the inventor of this loan of $2,100,000, and of the subsequent loans of $1,200,000 and $700,000, has not for a moment abandoned the object of causing these loans, (so far as in his power) to bring the greatest price; and that he has accurately foretold to the treasurer, for the benefit of the corporation, in ample time to avail of it, and on more than one important occasion —aye, accurately foretold, long beforehand, what was to happen in the money market, both in England and in this country.

The treasurer will also testify that the movements, combinations and arrangements of the inventor of the loans, in relation to the stock of the road itself, have, at very great risk of heavy loss to the inventor, sustained the stock in many a dark and dismal hour, and have kept up the courage of the most desponding, at the moments most critical to the fate of the road; and let him also testify, if he will, what he thinks would have happened to the road, had not all these unshrinking exertions been made, by the individual in question!

The treasurer will testify to the value of the services of this individual, on the various trying occasions of entirely unexpected and most unpalatable assessments.

The situation of the road, just before the loan of $2,100,000, may be likened to the situation of a ship abandoned at sea to the mercy of the waves. The inventor of the loan is the salvor. At great peril of his own fortune, and at great loss of time, and at the risk of being called a madman (which is not a very profitable nickname for a business man) and well-knowing that he was so called by some of the gentlemen who had the direction of the road—the salvor undertakes to save the ship, and does save her, and bring her into port. The court of admiralty will not inquire whether the salvor made a bargain.—They will award him a fair, a liberal portion of the property saved: this proportion being fixed according to the circumstances of the case; and they will award this, not by the laws of any particular country, but by the law of the world, founded on the sense of justice, written by the imprint of the Almighty's hand, in the hearts of all mankind.

If the inquiry be raised, "why was not a bargain made, beforehand, by the inventor of the loan, for his services?" the answer is, that the directors, (in common with the whole community) considered the project Quixotic, and, of course, unworthy of their countenance or patronage: and that they could not be made to budge one inch, untill impelled to move by the irresistible force which the plan had already acquired with the stockholders and the public;—a force resulting from the discussions elicited in upwards of 30 caucusses, public and private. To borrow the expression of a friend, "the directors thought they were made fools of, by being pushed to advocate a scheme entirely impracticable."

Had the directors of the Western railroad believed, when the loan was first proposed to them by the inventor, that it had a fair chance of success, if conducted by that inventor, and had they imagined, beforehand, the tact and labor he would bestow—it would have been their duty to enlist the services of that inventor, and they would not have offered him less than the expenses, and "5 per cent. commission on the amount of loan, payable in case the law was passed." It can be established, beyond a doubt, that a greater compensation than this has been paid for loans, by many a corporation, while in circumstances less critical than those in which the Western railroad was then placed. The inventor holds himself in readiness to take whatever compensation arbitrators will decide as the compensation which would have been agreed on, if an agreement had been made.

But no agreement was made, and for why?—because the directors thought it a Quixotic scheme; and this is said without disrespect to the directors. The whole community, (until instructed by the monitorial schools) were of the same opinion.

The question for consideration then is,

1st. Would it have been for the interest of the road, for the inventor to abandon the scheme, because he could make no bargain beforehand? To this the ready answer is, no! Public opinion says that without the loan, the road would have been defunct.

2d. Is less compensation due to the inventor, in consequence of making no bargain? There certainly cannot be less compensation due, because the service was indispensable to the life of the road, and could not be performed at all, in season to save the road, if a bargain with the directors had been considered as an indispensable pre-requisite to action in the loan.

If a distinction be attempted, between the directors elected by the state, and those elected by the private stockholders, the answer is, that, once elected, no distinction is known to the law. And besides, "as a stockholder," the state has been as much benefited, by the invention of the loan, as the private stockholders: and in addition to this, the additional value given to the property of the citizens of this commonwealth, by the existence of the road is very large. The existence of the Erie canal, in ten years doubled the value of the property in the state of New York, which had not increased in value during the preceding 10 years. By this rule, the railroad will add $300,000,000 in 10 years to the value of the property of Massachusetts. If then a distinction be made, it will be to decide that, by the invention of the loans, and the labors of obtaining them, the state has been benefitted to a vastly larger amount than the stockholders. And again, the reputation of the state stands proudly erect, with the Western railroad finished. Alas! where would that reputation be, with a road half finished to Springfield?

(To be continued.)

The Iron Trade.

This branch of industry is apparently almost as much depressed in England as in this country, yet their low rates of labor, and prostration of all rivalry in the business, enables them to keep their mills in operation.

The London quotations of September 22d are, for

Welch cold blast foundry pig.....	£3 10 to	£4
Scotch pig, Clyde.....	2 5	2 6
Railway chairs, average.....	4	
Rails, "	6	
Merchant bars.....	7 10	8

Fortunate were those American manufacturers who got contracts to keep their mills in operation during this and the ensuing year—or every mill making rails would have been stopped before this date. *So much* for the promulgation and *belief* of a *falsehood* in Pennsylvania by political *demagogues*—in 1844! Will the same men attempt a similar movement for the same purpose this year? We shall see.

The following remarks from the Wolverhampton Chronicle of 22d September, show that this important branch of business was then in a very depressed condition, in all the iron districts.

The effect of the late settled weather on the iron trade has been to cause some houses who, notwithstanding the low nominal prices, have been selling considerably under them, to approximate nearer to the fixed prices, but beyond this no advance that we can learn of has either been made or is contemplated.—Orders from the continent at this period of the year must be limited, and cannot affect the trade, as the shipments cease from October, owing to the ports being closed by frost for the winter. It is more than probable that upon the opening of the ports in the spring, a considerable demand for the continent will arrive, if political affairs should become more settled. In some branches of the trade, affecing the forges and mills, there is a large demand, but in others orders are exceedingly scarce; and while such a state exists, any attempt at advancing prices would not be wise. The makers of pig iron are naturally justified in attempting to resume their former position with regard to the makers of merchant or manufactured iron. Owing to the blast furnaces continuing to work during the two months' strike of the forgemen in the early part of this year, the stock of pig iron accumulated, causing a slight depression in this branch of the trade for a time. That stock is now, however, reduced to a moderate extent, and the makers of pig iron are now in position to ask their fair proportionate prices. Some heavy contracts have, we understand, already been made for next quarter, at £3 2s. 6d. to £3 10s., bars being presumed to be £6 10s.

The wages of forge and millmen cannot now be considered open to dispute. It is admitted that, according to the present price of iron, wages bear a fair proportion to the price of the manufactured article. The great bulk of the men agreed to work at the recent reduction without a strike, only a few workmen in the neighborhood of West Bromwich resisting the reduction for a time. Seeing, however, shortly after, the unreasonableness of their resistance, they also commenced work on the masters' terms. Some uneasiness ex-

ists, we are sorry to notice, among the miners of this district, arising out of the exaggerated and incorrect reports which find their way somehow or other to the public press, and also from the circulation of handbills, either founded on mistatements or misconceptions, among the men. At present, and as long as present prices alone can be obtained, employers, it is clear, are not in a position to advance wages, nor can it be thought that workmen will act wisely in demanding a rise. Should the anticipations of those intimately acquainted with the trade be realised, at the commencement of next year better prices may be expected, and a proportionate advance of wages honestly required.

The pig iron trade of Scotland has received a slight impetus from a large contract of pipes for Liverpool—it is said to be 40,000 tons—having recently been taken at Glasgow; but the extremely low price at which the contract was accepted, is a proof that the Scotch manufacturers are not sanguine as to the state of the trade. The manufactured, or malleable iron trade in Scotland is, we understand, at a very low ebb; the very inferior quality of the iron obliging the makers to take very low prices.

In Wales also the demand for bar iron is not brisk. Orders for rails may be obtained in moderate quantities for low prices; but not to the extent that might at first sight be expected from the resuption of operations on new lines of railway: the rails for most of these lines having been purchased long age, and in many instances lying in the hands of the manufacturers, ready for delivery the moment the companies are in a position to pay for them. Upon the whole, although we see no reason to doubt that the iron trade may have assumed an improved condition, and that orders, at present prices, to some extent, may be expected, still we would recommend great caution as to making any advance in price, and as a matter of couse any increase of expense in workmanship. The ruling price, like the ruling price of all other articles, when a money pressure exists, is scarcely remunerative either to master or man.—Both suffer; the one in profits, the other in wages, but cecession of trade is not the remedy At the one instant, when trade stops, the masters' capital and machinery is as nothing in the world, and the workman's time and skill as nothing also. Adventitious circumstances may modify these principles, but they are true as the truth can be.

Railway System of Great Britain.

The following statement in relation to the extension of railways in Great Britain is taken from a paper prepared by *Wyndam Harding, Esq.*—one of the ablest writers upon the railway system, because he is an intelligent *practical* man, who has had great experience, and therefore gives facts within his own knowledge instead of anticipations of favorable, or apprehensions of *un*favorable, results from the adoption of a *theory*, however plausible.

The quotation from the *Quarterly Review* in 1825 is well-timed and appropriate, as there are many who think themselves intelligent men at the present day, hardly aware that the railway system is their *junior*. The paragraph here quoted was published at about the period when the *Liverpool and Manchester* railway began to be "*licked into shape*"—as it was in October of that year that its promoters took a small office in Liverpool in which to hold their consultations; and even three years and a half later *five tons* was the maximum weight allowed to be given to a locomotive, *if one could be constructed*—of which many wise men doubted.

We divide the article of Mr. Harding, and make two of it, preferring—though not thereby improving it—to make a separate article of that part relating to *traffic*. The title of the paper alluded to, is

Facts bearing on the progress of the Railway System, by Mr. Wyndam Harding.

The modern railway system of Europe, may be said to date from 1830, when the construction by the English engineer, Mr. Geo. Stephenson of the Liverpool and Manchester railway, with its locomotive engines, was completed. After that date we heard no more of such prophecies as the following, (from the *Quarterly Review* in 1825) which it is not useless to record as a lesson of caution to us for the future:

"As to those persons who speulate on making railways generally throughout the kingdom, and superseding all the canals, all the wagons, mails and stagecoaches, postchaises, and, in short, every other mode of conveyance by land and by water, we deem them and their visionary schemes, unworthy of notice. What, for instance, can be more *palpably absurd aed ridiculous* than the following paragraph"—in which a prospect is held out of locomotives travelling twice as fast as stage coaches. "We should as soon," adds the reviewer, "expect the people of Woolwich to suffer themselves to be fired off in one of Congreve's ricochet rockets as trust themselves to the mercy of such a machine, going at such a rate."

The modern railway system has however not only done this, but it has given rise to new habits in the present generation, and has proved to be the great mechanical invention of the nineteenth century, as the steam engine was of the eighteenth century. As it is still in its infancy, it is especially the province of statistical inquiry to watch its growth, so that on the one hand timely remedies may be applied to its defects, and on the other that free scope may be given to its beneficial tendencies. Valuable papers have been contributed by Messrs. Laing, Porter, Graham and others, analysing the traffic on railways during the infancy of the system in the year 1843 Shortly before that period there had been a pause in railways. During two years only five miles had been sanctioned, but the period which has since elapsed comprises the memorable mania years of 1845 and 1846. Under this excitement intelligence and emulation have been stimulated among the managers of railways to the utmost, and the system has rapidly advanced. The consolidation of lines under a few great companies, by the process styled amalgamation, has proceeded; the atmospheric, an entirely new system of traction, has been brought forward; the electric telegraph, conveying intelligence at the rate of 280,000 miles a second, has been widely introduced; express trains, travelling at nearly the highest attainable speeds, have been established; and the length of railways in operation has been doubled. It therefore becomes a matter of much interest to enquire to what the results of so active a period point. Have low fares answered? Has the third class traffic, the most important to the bulk of the people, been encouraged, and has it been found wise, not only for the users, but for the owners of railways, to enourage it or the reverse? Has the increase of speed been successful, and are we likely to travel faster or slower hereafter? How have the receipts kept up while the length of railway has been doubled? Did the first 2,000 miles get the cream of the traffic, as has often been thought and has the average receipt per mile consequently fallen off? Should the experience of the past, in short, give us confidence in urging on the system at the extraordinary rate at which we are now doing it, or not?

In the following investigation and collection of facts it has been attempted to throw some light upon these points; the recent publication of the official railway returns for 1846 and 1847 affording peculiar facilities for the purpose.*

The following paper refers to English, Scotch and Welsh lines only; the Irish lines are excluded. the economical condition of Ireland being different from that of this country, and there being but few railways open in that country:

Comparative lengths of railways open in 1843 *and* 1847, *and receipts therefrom.*

† The lengths of English, Scotch and Welsh railways open June, 1843, were 1,990

‡ Ditto, open at the commencement of 1848 3,597

§ The gross receipts returned for the year 1842 were . . . £4,740,000

‖ Ditto for the year ending June 30, 1847, . . . 8,326,772

After making the necessary corrections in the above figures, the average receipts per mile of railways in 1842 were £2,489; in 1847, £2,596. We therefore arrive at the important fact that, although the mileage of our lines has been doubled, the receipts have been more than doubled. This must be regarded as a very favorable general feature in the state of railways. There was much reason to fear that, as the first railways ran between the great towns or traversed the manufacturing districts, the railways which were next opened would show a great falling off in receipts. Hitherto, then, we find that this is not so: a fact which may give us confidence as regards the great length of railway which has been sanctioned by parliament but which is not open.

* I have to acknowledge many obligations to those who, having gone over parts of the field before, have helped to reduce the mass of figures with which we have to deal into shape. References to the sources of information are subjoined.

† Mr. Laing's paper, 1844, p. 5, appended to the fifth report from the select committee of railways, 1844, 115, 2.

‡ Report of the railway commissioners, 1840, p. 11, after correction for lines opened in 1847.

§ Mr. Lang's paper, 1844, p. 7.

‖ Railway commissioners' return, 1846-7.

Lines sanctioned, but not opened.—The length of railway sanctioned by parliament at the commencement of 1848, but not then open, was 7,150 miles.* A considerable portion of this is in progress, more or less rapid. On the 1st of May, 1847, 5,209 miles were returned † as in progress, on which 218,792 persons were employed, or 42 per mile.‡—These new railways are principally designed for the accommodation of the aggricultural parts of the country. We will presently refer to the prospects of railways in such districts. When the railways now in contemplation are completed, and it is probable that a greater portion will be so in the course of the next five years, we shall have upwards of 10,000 miles of railway open; on which, judging from the numbers employed on lines now open,† viz: 14 per mile, 140,000 persons will be permanently employed, at good wages—representing, at 5 to a family, three quarters of a million of the gross population. The importance of this addition to our internal communications will be appreciated when it is remembered that there are only about 4,000 miles of inland navigation, and 30,000 miles of turnpike road, open for traffic in the country.

We recommend these articles to our readers as deserving their attention.

Competent Men at a Liberal Compensation.

We extract the following remarks, in which we fully coincide, from an article in the Railway Chronicle, entitled "*Heads of a System of Practical Reform, No.* 5;" and commend them to our American managers of railways, as eminently true and appropriate. The writer says:

Among such minor savings as we have pointed at, we shall take the earliest occasion to say, we do *not* mean to count reductions of wages, in whatever part of a railway establishment. The best economy, in a business like this, is to pay such wages or salaries to men fit for the business, as will make good men study to deserve their places, and fear to lose them by any default in their duties.—The matter of consequence here is not so much the sum paid as the kind of service got for the payment; the evil to be guarded against is far more the admission, whether through carelessness or misuse of patronage, of unqualified servants, than the price which may be given for good ones. If directors and heads of departments are honestly studious, in all appointments, of the one thing needful, and so feel one of their chief duties as to make fitness and merit the sole object regarded in filling up places, there is no fear of the company's revenue suffering by the payment of such wages as will invite and retain fit and meritorious servants. The incompetent are dear at any price whatever; the money laid out on faithful and efficient service is sure to be returned to the employer in a hundred ways. In this department, we trust, therefore, that economising committees will not fall into an error common enough in other quarters, by making reductions inconsiderable in themselves, although serious enough to those who occupy the lower places in the working scale; but it will rather turn their attention to the best method of ascertaining that the company receives value for the wages paid—of preventing favoritism or jobbing, of whatever kind, from depriving the company of this value, by quartering incapabilities upon its funds. This, and not the diminution of wages, is the main thing to be studied here.

* Porter's Progress of the Nation.

† Parliamrntary returns of the House of Commons, 1847, 579.

‡ In this return the number of miles returned as in progress are more than those really in construction, the number of men employed per mile is less than the truth.

Railway Traffic, and Influence of Reducing Rates in England.

With many very intelligent men in this country, directors as well as shareholders, it is still an unsettled question whether high or low rates of charge will give *best returns* on our American railroads.—Indeed, within a few days past, we had a conversation with a very intelligent, and highly honorable, gentleman, connected with one of the companies between this city and New York—not, however, connected with the oppressive monopoly to which we have so frequently referred of late, except in being compelled to yield to their dictation in relation to the $1 through ticket—who does not fully admit the truth of the *theory*, though obliged to yield to the practice, of reasonably low fares, for their *way* travel. There are some lines in the States, north of Mason and Dixon's line, we admit, and most of those south of it, which may not, owing to *local* causes, be *equally* benefitted by low fares, and because the people *are not there* to travel, and to produce *freight*; and yet, even on these lines, we must still believe that like *influences* produce like *results*, and that *inducements held out* to the people to travel, and to send the produce of their labor, will not only increase both, but also *increase the population*, and thus enhance the value of the property, and of course increase business at a steady rate; while high rates not only prevent travel, but also retard the increase of population, and prevent a legitimate rise in value of property; while on important lines, emanating from, or connecting large cities, where there are both people and property to be transported, if the rates will warrant it, the true poliry is, in our estimation, to put the rates so low as to draw out passengers by *thousands*, instead of *hundreds*; and enable them to carry to market articles of utility and convenience, though of small cost, and thus derive an income from sources heretofore not available from cost of transportation; and also to enable them to have a *choice* of markets in the large cities thus connected by railroads.

The following analysis of the English railway traffic, for the year ending June 30, 1847, will be found both interesting and useful—interesting, as exhibiting a large increase of railroads, and proportionate increase of business; and useful, in showing that, as the resources of the country are developed by railways, the proportion of receipts from *freight* increases; thus showing also an increase in the value of *property*, as well as of the comforts and conveniences to the people. It is as follows, viz:

ANALYSIS OF TRAFFIC.

General Features—The gross traffic for the year ending June 30th, 1847, was, as we have seen, £8,366,000. There were conveyed during that year, from the returns of the board of trade,* in round numbers, 7,000,000 tons of merchandise and goods, 8,000,000 tons of coal, 59,000 horned cattle, 1,500,000 sheep, and 100,000 horses.

Of the gross sum, £8,366,000, the passenger receipts were, . . . £5,024,000

The receipts from all other sources —goods, cattle, carriages, parcels, mails, etc., . . 3,342,000

8,366,000

In every £100 of receipts, the passenger traffic therefore forms 60 per cent., the traffic receipts from other sources 40. In 1842 the proportions were as 64 to 36. The proportions of traffic receipts from other sources than passengers, being principally goods and cattle traffic, have thus increased since 1842 as 40 to 36, or 11 per cent. The total number of passengers carried in the year, ending June 30th, 1847, was 47,484,134,† as compared with, in 1842, 22,403,478.‡ The average distance travelled by each passenger was, in 1842, 13 miles; in 1847, it was 16 miles. The numbers and proportions of classes were

	In 1847.	In 1842.
First class,	14·2	20·2
Second class,	38·3	45·4
Third class,	47·5	37·5

Thus the third class passengers, which have increased in numbers since 1842, from 6,000,000 annually to 21,000,000, now form nearly one half of the whole number travelling, whereas in 1842 they formed only one third. Only one third of the third class passengers availed themselves of the parliamentary trains arbitrartly, and, as it appears to me, unfairly, imposed upon railway companies in 1844. The following table, comparing the fares of the metropolitan railways in the year ending June, 1843, with those in the year ending June, 1837, shows the great reduction which has taken place in fares during the last four years. To make the comparison more appreciable, the fares are taken as for 100 miles in pence.

	Fare for 100 miles.					
	1st class.		2d class.		3d class.	
	1843.	1847.	1843.	1847.	1843.	1847.
Lond. & N. West.	334·8	218·1	241·1	144·6	131·2	93·3
Great Western...	303·1	274·4	208·5	187·8	118 3	100·0
Lond. & S. West.	312 0	215·0	210 0	168·0	120·0	96·0
Eastern Counties.	294·1	210·0	227·4	141·5	164·7	92·3
Northern & East.	217·4	.....	165·1	.....	110·9	.....
South Eastern....	227·0	214 0	150·0	152·0	87·5	90·0
Lond. & Brighton	350·0	263·0	225·0	171·0	150·0	109·0
Average.....	303·5	237·4	210·3	160 8	128·6	96·7
Difference per ct.	.....	21·8	.....	33·8	.....	25·0

This reduction in fares, coupled with the increase in the number of trains, and the speed of travelling, must be regarded as the principal cause of the great increase of the number of passengers since 1843.

We have alrcady seen that the numbers in 1846 and 1843, 47,484,134 to 22,403,478.—If we take into account the number of miles opened at those dates respectively, the annual number per mile was, in 1842, 11,772, and in 1847, 14,806.

* These returns are not complete, and they require some correction, in respect to the same article being sometimes conveyed over several different lines, and therefore counted over more than once.

† Railway commissioners' return, 1848.

‡ Mr. Lang's paper, 1844, p. 11.

On the Balancing of Wheels.

At a meeting of the Institution of Mechanical Engineers on the 13th of June, Mr. M'Connel read a paper on this subject, which appeared to meet with general approbation—and it may be both interesting and useful to our readers—therefore we give it a place in the Journal.

On the Balancing of Wheels.—Mr. Mc Connell read the following interesting paper on this subject:

The paper treated on the balancing of wheels as a very important matter, as most of the accidents from carriages jumping off the line, had arisen from the balance in the wheels of the engine. The first who made this matter of practical observation was Mr. Geo. Heaton, of Birmingham, on examining a lathe in the turning rooms of Earl Craven, the pulley of which he found to be out of balance. This he remedied, and the lathe worked well again. Mr. M'Connell instanced several railway accidents of late, which had arisen from a want of proper balance in the wheels of the engine. He then proceeded to illustrate the usual method of balancing the wheels of locomotive engines, which he considered an improper one, and on reference to experiments with another model, pointed out the desirability of obtaining an accurate balance in the piston and piston rod.

In the course of the paper Mr. M'Connell exhibited various experiments with a model railway carriage, explanatory and illustrative of the statements advanced in the above paper. The first experiment was made with wheels in balance, the motion to which was given by a spring, and the sustained regularity of the motion was unexceptionable. In the second experimeut, a small piece of iron was inserted in the wheels, and the balance consequently destroyed, the natural tendency being to cause a jumping and jerking motion to obviate which was the object sought in this contrivance. Similar experiments were made to show the necessity of adopting a similar system of balancing the piston and piston rods in order to obviate this same jumping motion.

In explanation, Mr. M'Connell said that the wheels could be properly balanced together. First, one wheel was balanced, and then the put they other wheel on upon the other side of the engine, and balanced it in the same manner. When the matter was first placed before Mr. Robert Stephenson, that gentleman considered it of no service, and it met with much opposition; but since that time Mr. Stephenson and many other gentlemen had adopted a plan of balancing their wheels, which, in his opinion, was not the correct one. When a locomotive engine was connected, and the driving wheels and working part attached, it was lifted up upon centres, and set slowly in motion, baiance being added until it moved at a certain speed without oscillating, and it became perfectly settled on its centres. That plan might answer tolerably well, but it was the really true mode of balancing wheels. He considered that great evil resulted from the piston and piston rod not being in balance; it had been the cause of accidents in several cases where the engine did not leave the rails when the wheels were in balance. If the engine attained a certain velocity—the piston rod moving 1,000 feet per minute—this momentum became so great, that the engine must jump; and the front wheels were, in some instances, clear of the road, and they could see between the wheel and the rail. They had an engine at Wolverton, fitted up with those correcting weights, and it had been tried for the first time that morning on blocks. The engine at a certain speed on blocks, threw itself down, and they were not able to run it so fast as might be wished; but, on attaching the balance weight, the motion of the engine was completely neutralised.

Mr. Middleton said that this appeared to be the system of balancing wheels, which had been introduced to the notice of the North Western railway, some years ago, by Mr. George Heaton, and againsi which hitherto there had been much prejudice. He felt convinced that it was one of the best methods ever suggested for securing the safety of the public, when travelling on railways, and a great many accidents might be obviated by the adoption of this, or some similar plan of balancing the wheels of engines and carriages. It was supposed that the North Western line had disapproved of Mr. Heaton's plan, but he was happy to find that there was now some probability of Mr. Heaton reaping the reward of his industry by the use of his patent.

Mr- Cowper said, that a system of balancing wheels was used by the Eastern counties company 11 years ago: but this was a decidedly superior plan to any he had ever witnessed, and in many respects superior to the plan he had seen of Mr. Heaton's.

Mr. M'Connell said that Mr. Robt. Stephenson had expressed his entire approval of the utility of the proposed mode of balancing wheels, and had already given orders for it to be attached to an engine he was now constructing.

Harrisburg, Portsmouth Mountjoy and Lancaster R. R. Co.

At the annual meeting of the stockholders of the Harrisburg, Portsmouth, Mountjoy and Lancaster railroad company, held on Friday, the 1st day of September, 1848, Wm. W. Longstreth was called to the chair, and Samuel Hood appointed secretary of the meeting. The chairman read the following notice:

OFFICE H., P., M. & L. R. R. Co.
Philadelphia, 11th Aug., 1848.

The annual meeting of the stockholders of this company will be held at the company's office, (room No, 16, Philadelphia Exchange) on Friday, the 1st September, at 11 o'clock A. M., at which time an election for thirteen directors will take place, to serve for the ensuing year.

VAL. HOLMES, *Secretary.*

The President of the Board of Directors presented the annual report of the board for the year ending the 31st day of August, 1848, which being read by him, the following resolutions were, on motion of Wm. V. Pettit, adopted.

Resolved, That the report of the board of directors made at this meeting to the stockholders, be approved and adopted.

Resolved, That the Act of Assembly of the Commonwealth of Pennsylvania, passed the 16th day of March, 1848, entitled, "An Act relative to the Harrisburg, Portsmouth, Mountjoy and Lancaster railroad company," and the supplement thereto, passed the 7th day of April, 1848, be and the same are hereby accepted.

On motion, *Resolved*, That the board be requested to cause the usual number of copies of the annual report of the board to be published for distribution among the stockholders.

The meeting then adjourned to go into an election for directors for the year ending the 31st day of August, 1849.

WM. W. LONGSTRETH, *Chairman.*
SAMUEL HOOD, *Secretary.*

The judges reported the following persons duly elected directors of the company for the year beginning the 1st day of September 1848 and ending the 31st day of August, 1849, viz:

Joseph Yeager,	J. N. Lane, (Lanc.)
Seth Craig,	Robert Allen,
William Ford,	Dr. John Holmes,
Algernon S. Roberts,	David Lapsley,
Francis R. Wharton,	George Taber,
H. Buehler (Harrisb.)	Robert V. Massey,

Wm. W. Longstreth.

REPORT.

The board of directors of the Harrisburg, Portsmouth, Mountjoy and Lancaster railroad company, respectfully submit to the stockholders their annual report, showing the condition of the affairs of the company on the 1st day of September, 1848, together with tabular statements of their business for the past fiscal year.

In reference to the business of the road, the stockholders have every reason to be proud of the result. Whilst it will be seen that the revenue for the last twelve months is much larger, the general expenses have considerably decreased.

It will be seen by the statements and tables annexed, that the whole receipts for the year ending September 1st, 1848, have been as follows, viz:

From passengers	$80,900 24
freight	31,284 12
extra freight	772 68
mails	6,300 00
rents	2,093 40
sale of old materials and engines.	4,904 43
Total from all sources	126,254 87

This statement shows that the receipts from passengers are $80,900 24, equal to $1 40 on each through passenger.

The number of miles travelled by passengers are 2,080,294, equal to 57,786 through passengers.

The eastward tolls on freights amount to $13,640 81.

The westward tolls on freights amount to $17,643 31.

A more detailed statement will be found by reference to tables II, III and IV, annexto this report.

It is with great pleasure that the board of directors are enabled to lay before the stockholders the improved condition of the financial affairs of the corporation. It will be

seen, by comparing the statements annexed with those of last year, that the whole unfunded debt, amounting to upwards of $47,000, has been paid off, out of the net surplus receipts of the road. After paying the interest on the funded debt, and the current expenses for the year, there will be a balance in the hands of the treasurer of $12,413 11, which, added to the amount paid off, shows that the profits derived from the business of the road are more than nine per cent. on the capital stock of the company.

From the progressive increase of business, and the improved condition of the road during the last three years, with the prospect of a still greater increase from the Pennsylvania railroad, the stock of the Harrisburg and Lancaster railroad company cannot fail to become one of the most desirable railroad investments in the country.

The board of directors flatter themselves that the company is now in such a condition that the net profits of the road will be amply adequate, (after paying interest on the loans) to pay regular dividends to the stockholders, besides making appropriations towards a contingent fund, to liquidate the funded debt of the company.

Since the last annual meeting, the board has been seduously employed in improving the condition of the road. The twenty four miles of track laid with T rail is in excellent order; and that portion laid with flat far iron is in as good a state as a road of that kind can be made.

Twenty five tons of new T rail have been laid on the latter track during the year.

The whole distance from Harrisburg to Dillerville is now run in less than two hours —and the board is happy to state, that no accident has occurred on the road during the last year.

The *bridges* and *culverts* along the line of the road are in good repair. The flooring on the Big Chiques bridge has been relaid, and the structure otherwise improved.

The *locomotives* and *machinery* are all in excellent order; and the two new engines, the Washington and Franklin, perform well, and require but little expense to keep them in repair.

The *warehouses*, *waterslips* and *depot* at Harrisburg, are in as good a condition as they were at the last annual report, and are now rented for $2200 per annum.

The attention of the board of directors for some time past, has been directed to the construction of a branch railroad from the Harrisburg and Lancaster railroad to Marietta and Columbia.

The importance of this connection, in relation to the geographical position of this route, as well as the interest of the company, is obvious. It will not only secure a very large additional amount of trade and revenue, which has heretofore been carried through other channels, but it will put to rest any danger of coming into competition with any other rival company. This branch or route can be so located, as to pass along the thickly populated region of the Susquehanna, passing thro' the thriving towns of Brainbridge, Marietta, and Columbia, the great lumber marts on that river.

The citizens of the town on the line of the contemplated road have a deep interest in the construction of it, and are sensible of the importance and advantage it will be to them. They came forward, in the most cordial and liberal manner, to aid and assist the committee in their examinations; and have given the board the strongest assurance, that a liberal subscription can be obtained from the parties in that locality, interested in the construction of the road.

A charter has already been procured, authorising the company to construct a railroad from Harrisburg to York, on the western side of the Susquehanna; the construction of the branch referred to, will, however, do away the necessity of making that road.

With a view to accomplish so desirable an object, the board of directors made application to the legislature of this State, and obtained a supplement to their charter, authorising them to construct a branch from any point on their road, west of Mountjoy, to Marietta, with the privilege of extending to, and connecting with the Philadelphia and Columbia railroad, at Columbia.

Soon after the charter was obtained, a committee of gentlemen from the board of directors visited the ground, examined the routes, reported favorably, and recommended an early examination and survey of the ground; which report was approved, and measures taken to commence the work.

The board has two routes in view, either of which they believe can be made at less cost than the construction of ordinary roads. One of these routes connects with the Harrisburg and Lancaster railroad, about 1½ miles east of the tunnel, extending to Marietta and Columbia, distance about 8½ miles.

The other route extends from Columbia, along the bank of the river, and connects with the company's road near Portsmouth, a distance of about 18½ miles.

The company has engaged the services of Edward F. Gay, Esq., engineer, a gentleman of well known practical experience and skill in his profession, who is now on the ground with an efficient corps, actively employed in making surveys and examinations, with estimates of the cost and construction of the road.

All which is most respectfully submitted.

By order of the board,

JOSEPH YEAGER *President.*

Philadelphia Sept. 1, 1848.

[No. I.]

Statement of the whole receipts and expenditures of the company for the fiscal year commencing 1st September, 1847, and ending 31st August, 1848; also with the balances of cash.

To balance on hand 1st Sept., 1847			$2,992 80
To cash received for passengers			80,900 24
"	freight		31,284 12
"	extra freight		772 68
"	rents		2,093 40
"	mails		6,300 00
"	old materials and engines		4,904 43
"	bonds at par		2,000 00
"	"		900 00
			132,147 67

Disbursed as follows:

By cash paid this amount of company's debts	47,420 86
By cash paid interest on company's loans and debts	32,309 40
By cash paid discount on uncurrent money	502 58
By cash paid (from bonds) in full for engines	2,000 00
By cash paid (from bonds) commissions on assignment removed last year, as per table No. VI	900 00
By cash paid balance of commissions, as per do	73 50
By cash paid insurance, taxes on property and capital stock, as per do	1,416 03
By cash paid for T rail, and materials for reconstructing road, as per do	2,708 36
By cash paid for repairing and running the road, including office expenses, salaries, rent, stationery, etc., as per do.	32,288 83
By cash paid unclaimed dividends	115 00
By balance on hand	12,413 11
	132,147 65

[No. II.]

Abstract of freight business.

	Tolls eastward, collected at Harrisburg.	Tolls westward, collected at Dillerville.	Total amount.
1847—September	$509 17	1,006 56	$1,515 73
October	716 53	1,649 67	2,866 20
November	1,430 59	1,490 54	2,921 13
December	1,474 27	1,201 17	2,675 44
1848—January	1,906 18	1,819 02	3,725 20
February	1,994 87	2,533 08	4,527 95
March	1,993 14	3,328 04	5,321 18
April	996 78	1,585 69	2,582 47
May	919 71	953 94	1,873 65
June	624 01	811 58	1,435 59
July	469 50	552 36	1,021 86
August	606 06	711 66	1,371 72
	13,640 81	17,643 31	31,284 12

[No. III.]

Abstract of passenger business.

	Miles travelled by passengers.	Equivalent of through passengers.	Average receipts from each passenger.	Whole amount from passengers.
1847—September.	194,479	5402	1·40	$7,563 07
October	175,826	4884	"	6,837 66
November.	133,470	3708	"	5,190 51
December.	112,940	3137	"	4,392 10
1848—January	113,773	3160	"	4,424 50
February	114,991	3194	"	4,471 87
March	165,755	4604	"	6,446 02
April	254,708	7075	"	9,905 30
May	209,873	5830	"	8,161 72
June	190,754	5299	"	7,418 20
July	180,704	5030	"	7,027 37
August	233,021	6473	"	9,061 92
	2,080,294	57,786		80,900 24

[No. IV.]

Abstract of the receipts from passengers, and freight, rents, mails, etc., for the past year.

From passengers		$80,900 24
freight		31,284 12
mails		6,300 00
rents		2,093 40
extra freight		772 68
		121,350 44
From sale of old materials and engines.		4,904 43
Total income for year		126,254 87

This statement shows that the receipts from passengers are $80,900 24, equal to 57,785 through passengers, at 1·40 each.

The eastward tolls on freight amount to		13,640 81
The westward " "		17,643 31
		31,284 12

[No. V.]

Loans, and capital stock of the company, viz:

To 5 per cent sterling bonds sold in London, redeemable in 1858, amounting to £64,500, at 4·85		$312,825 00
To 6 per cent. dollar bonds, and funded debt in the United States until 1850, amounting to		260,882 45
		573,707 45
To capital stock, being 12,191 shares, per stock ledger, at $50 per share		609,550 00
		1,183,257 45

VAL. HOLMES, Treasurer.

[No. VI.]

A statement of the generæl expenses of she company, from 1st September, 1847, to 31st August, 1848, including the amount expended by the superintendent for repairs, materials, workmen and reconstructing the rovd, etc.

Repairs of roadway, bridges and superstructure between Dillerville and Elizabethtown	$2,244 92	
Repairs of roadway, bridges and superstructure, between Elizabethtown and Harrisburg	3,890 15	
Repairs and improvements of depot, machine shop, warehouses, water stations, and weighscales	649 69	
Repairs of locomotive engines and tenders	4,112 49	
" passenger and baggage cars	1,918 26	
Expense of wood	4,120 49	
" coal	327 51	
" expense of oil and cotton waste	952 28	
Wages of enginemen and firemen	3,584 50	
Wages of laborers engaged in pumping water, sawing wood, watching bridges and switches	2,894 88	
Expense of carrying mail to postoffices	263 50	
Attorney's fees and legal expenses	172 83	
Printing, stationery, office and road exp	1,276 39	
Salaries of president, sicretary, treasurer, superintendent, eollectors and conductors	5,880 94	
	32,288 83	
Insurance and taxes on property and capital stock	1,416 03	
Expense of T rail and materials for reconstructing road	2,708 36	
Expense: being commissions on assignment (removed last year)	973 50	
	5,095 89	
	37,386 72	

High Locomotive Speed--8 Feet Drivers.

The following account of an extraordinary run of 77 miles on the Great Western (England) railway, with the "*Courier*," an eight wheel locomotive, shows that *speed*, on railways, has not yet, by any means, reached its maximum; nor have the *driving* wheels of locomotives yet got their growth in this country. They are, however, making very considerable advances on several of our railroads, as *six* feet is now a very common size for the drivers to passenger engines—and the Messrs. Norris, of this city, are, we understand, building an engine for the Camden and Amboy railroad, with *seven* feet drivers—so that we shall ere long have a test of the utility and safety of high wheels on our American roads. The followlng is from the London Moring Herald.

Speed and Power of the Locomotive—Extraordinary Run with the Gt. Western Express Train—Seventy Miles per Hour for 43 Miles.—The most extraordinary journey that has yet been made by the express trains upon the Great Western railway, was performed on Saturday with the Courier locomotive. from Didcot to Paddington, with the twelve o'clock express train from Exeter, consisting of six carriages, weighing 60 tons. The Courier is one of the eight wheel class of engines, with 8 feet driving wheels. 18 inch cylinders, and 24 inch stroke; and the only difference between her and the others of the class, the extraordinary speeds of which we have frequently recorded, is, that her tubes are three inches shorter, and her fire box is, we believe, larger by six square feet. The engine was driven by John Heppel, who had charge of the celebrated Ixion, 7 feet driving wheel locomotive, during the gauge experiments. He is one of the oldest, steadiest and most intelligent drivers on the line, and managed his engine on Saturday with great judgment. He was, by the permission of Mr. Gooch, the locomotive superintendent of the Great Western railway, accompanied by J. Brown, one of the "crack" drivers in the service of the London and North Western, who rode on the foot plate of the engine and took the rate of working. From our own notes of the working of the Courier for the 53 miles from Dldcot to Paddington, the 53 miles were performed—that is, from a state of rest to the time the engine entered the station at Paddington—in 49 minutes 13 sec., or at an average speed, including time lost in getting up speed when departing from Didcot, as well as the time lost in reducing speed when arriving at Paddington, of *sixty seven* miles per hour. The 47th mile post was passed at 3.46.40½, and the 4th mile post at 4.23.24½, so that *forty three miles were performed in thirty six minutes and forty four seconds, or at an average speed of upwards of seventy miles per hour.* The whole of the journey from Swindon to London, 77 miles, was scarcely less extraordinary than that from Didcot to London. The train left Swindon at 3 9.1, stopped at Didcot 5 min. 35 second, and reached Paddington at 4.28. 13. The 77 miles were therefore gone over in 78 minutes 29 seconds, including the 5m. 35 sec. stoppage at Didcot. The *thirteen miles, from the twenty ninth to the sixteenth mile post were performed at the rate of upwards of seventy two miles per hour.*

Attica and Buffalo Railroad Co.

In compliance with a resolution of the assembly, passed February 2, 1843, the Attica and Buffalo railroad company submit the following report for the year ending 1847.

Length of their road 31 miles 26 chains.

Length of branches about 50 chains.

The company own and have in use,

6 long passenger cars, 1st class.
3 " " 2d class.
23 long freight and baggage cars.
20 short wood cars.
5 locomotive engines.
1 machine shop.

Average number of men about 30.

The cost of the construction of the road is as follows:

Am't. expended on that account to Jan. 1, 1847	$306,704 52	
Amount expended on same account in 1847	105,484 38	
Whole cost of construction	412,188 90	
Paid for cars and engines to January 1, 1847	48,104 33	
Do. in 1847	27,250 10	
	95,354 43	
Total cost of road and fixtures	487,543 33	

The total income of the road from all sources in 1847, was as follows:

From passengers	$104,010 22	
freight	15,000 00	
U. S. mail	4,800 00	
Total earnings of the road	123,810 22	
To this add proceeds of sale of old stock	12,872 75	
	136,682 97	
115,239 through passengers in 1847, fare	96,764 09	
15,560 way " " "	7,246 13	
130,799	101,010 22	
Expenses in 1847 of construction as before stated	105,484 38	
Paid in 1847 for cars and engine	27,250 00	
" running expenses	49,000 00	
Total expenses of 1847	181,734 38	
Amount of dividends paid in 1847	33,990 00	
	215,724 38	

Number of miles run by passenger trains....59,211
" " freight " 17,580

JAMES O. PUTNAM.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 21st ult., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Oct. 24.	3,573 01.	197,765 10
By Room Run "	4,189 14.	105,721 10
By Hazleton	2,700 00..	77,596 00
By Beaver Meadow	2,739 12..	73,032 12
By Buck Mountain	2,653 01..	62,936 01
By Spring Mountain	1,762 06..	55,208 08
By Cranberry Mines	658 00..	12,612 00
White Haven	356 15..	9,077 05
Diamond Co	546 10..	4,346 07
Total	19,178 19.	588,303 13

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 26 h ult., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	11,001 16
" Pottsville	5,509 07
" Port Carbon	9,303 01
" Port Clinton	2,800 00
Total this week	28,614 04
Total this year	1,052,101 00

The amount of coal brought to market by the Schuylkill canal during the week ending the 26th ult., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	7,772 07
" Schuylkill Haven	3,671 19
" Port Clinton	664 11
Total this week	12,108 17
Total this year	374,422 17

Recapitulation.—Total Shipments this Season.

By Lehigh companies	588,303 13
By Reading railroad	1,052,101 00
By Schuylkill canal	374,422 17
Total	2,014,827 10

Prevention of Collisions on Railways.

The London Mining Journal says, that "An ingenious contrivance for preventing accidents on railways, and one that appears well worthy of notice, has been exhibited at the Polytechnic Institution for some weeks past. It differs from most arrangements of the kind in one important point—that is, to prevent collision, instead of lessening the shock when coillision has taken place. This appears to be a move in the right direction. It is, perhaps, pretty well known that, by the existing arrangement, the services of a guard are required in stopping a train—the engine-driver not having the power of applying the breaks to the carriage; so that, in a case of emergency, if either of these officers be off his guard, it is so much valuable time lost; and let it be borne in mind, also, that the guard, individually, has no control over the train whilst the motive power is acting; and, although he is one most likely to observe danger first, yet he can do nothing more than make signals to the engineer, so that he may understand that danger is at hand, and act accordingly—hence the many contrivances that have been put forth from time to time for enabling the guard to communicate with the engineer by signal; and again if they are both on the alert, and act the mo ment they observe danger, still the means at their command for stopping the train appear inadequate; and, in opposition to their exertions, the train runs on for a considerable distance.

Let us take the accident at the Shriveham station, on the Great Western line, as an example. The distance the train run in that case from the time danger was observed, till it come in contact with the carriages on the line, was more than enough to enable the officers in charge of the train to stop it in perfect safety, if they had but the means at their command. The fact was proved by Sir George Cayley, some years since experimentally. He showed that a train, proceeding with a volocity of 22 miles per hour, could be stopped within the space of 20 ft. in perfect safety, and for any increase of velocity in the same ratio; and yet, strange as it may appear, no plan has yet been put in practice to take advantage of this fact. A gentleman of the name of Bishop, however, has recently taken out a patent for a contrivance of this kind, which appears, by experiments with the models, to answer the purpose admirably. Perhaps, the following brief explanation will give some idea of the advantages of the contrivance:—Let it be understood, in the first case, that every carriage has the breaks attached to it; and that, by means of a bar, placed under the carriages, the breaks may be thrown in or out of action at pleasure; and that, when the train is made up, these bars could be connected from carriage to carriage—so that the engineer, by acting upon this bar at one end of the train, has the power of applying the breaks to every carriage simultaneously, converting, as it were, the whole train into a sledge. Let it also be understood, that the guard has the same power over these breaks as the engineer, rendering the one independent of the other; but what is still more important it gives the guard, as well as the engineer, full and efficient power to check the velocity of the train, or to stop it altogether—for it can be shown that the breaks being applied to every wheel, in a train, the power of any locomotive engine would not be sufficient to move it forward; and that, when the steam has been shut off, and the breaks applied, the train may be stopped within an incredibly short space. All these matters are fully demonstrated by the models that are exhibited; and it is to be hoped that, ere long, we shall find some such efficient contrivance upon every railway in the kingdom.

The Electric Telegraph.

Improved Modes of Insulation.

Mr. J. H. Hammerton, superintendent of the Electric Telegraph Company, has addressed the following letter to the *Mechanics' Magazine*:—"As the advantages of the electric telegraph are daily becoming better understood, it is probable this mode of communication may ultimately be extended to most of the principle towns in the kingdom; whatever, therefore, tends to improve the means of transmitting signals by the aid of electricity is likely to be beneficial to the public, as well as to the Electric Telegraph Company. The most serious obstacle to the transmission of signals by electric action is the want of perfect insulation. I beg to submit the following plan as better adapted to obtain the desired object that any hitherto attempted. As a substitute for the earthenware cones, at present in use, for suspending the wires to the poles, I propose screwing on to the pole a piece of 1½-inch or other convenient sized batten of the required length; gutta percha tubes, 12 or 14 inches long, and widened into a lip at the extremities, are then strung upon wires, and attached to the poles by a plate of zinc, shaped to the form of the cubes. At the winding posts the bolt of the racket-wheel for tightening the wires is insulated by earthenware collars; I have used collars of similar form made of gutta percha, havins a disk of hard wood interposed between the shoulders of the bolt and the collar, to take off some part of the strain. The plan has been perfectly successful In towns, it is necessary to lay the conducting wires under the streets; for this purpose they are placed in leaden tubes, which are enclosed in iron pipes, but the insulation is very defective. I propose to have any number of copper wires, covered individually with a tube of gutta percha fitting close to the wire, and either with or without a join along the sides; the latter, though rather more expensive, is doubtless the best plan. These several wires are then either bound together with a band of gutta percha, or enclosed in a tube or solid mass of the same material, which is placed in common gas pipes, and laid down under the pavement in the streets, or may be used in tunnels, or other places where it is inconvenient to have open wires. I have submitted wires covered in the manner just described to the severest test, with perfect success. After keeping them in water many days, I have sent a current of elictricity along them generated by 288 pairs of plates. I have used 24 cells of Grove's battery for the like purpose, and used the most delicate galvanometer to detect any contact between the wires, but the insulation has, in every instance, proved to be perfect Each of the modes of insulation above described has the further advantage of being considerably cheaper than any at present in use. I enclose a diagram of the mode of insulation in the poles." [In the *Mechanics' Magazine* of this day, Mr. Francis Wishaw states in a communication to the editor, that the Gutta Percha Company have successfully adopted several plans for insulating telegraphic wires by gutta perch, similarly to the above; and that he exhibited a specimen at the meeting of the British Association.—Mr. Baddely claims for Mr. Bain, who is now in America, that he used it for the same purpose six months since; and a statement also appears from "Z. U.," to the effect that this substance was employed by Mr. Physick, the Telegraph Company's engineer, in February last, in the Kilsby, Leighton, Watford, and Kensal Green tunnels, and has proved perfectly successful. The following is from Mr. Baddely's letter:—"Mr. Hammerton now *proposes* to cover the wire with gutta percha, fitting close to the wire, 'either with or without a join along the sides; the latter though rather more expensive, being doubtless the best plan.' By Mr. Bain's process, I believe the latter plan is not more expensive than the other. If I remember rightly, Mr. Bain at the same time told me, that the fitness of gutta percha, as an insulating medium, had occurred to many different persons"]

English Railway Traffic.

"From our official returns," says the Chronicle, "it appears that the amount of traffic for the last week, on 4,110 miles of railway, was £225,801, thus accounted for: £119,402 for the conveyance of passengers only, £48,450 for the carriage of goods, and a remainder of £57,949 for passengers and goods together, not respectively apportioned; being an increase of £11,528 over the corresponding week o last year, when the mileage was 3,296. The average earnings per mile were £55, while in 1847 they were £65."

NEW YORK & PHILADELPHIA.



NEW JERSEY RAILROAD & TRANSPORTATION CO.—



6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11¼ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

RAILROAD IRON.

THE NEW JERSEY RAILROAD & TRANSPORTATION CO. have for sale from 450 to 500 tons of Iron Rails, weighing from 35 to 37 lbs. per yard, of the T pattern, recently taken up from their road to give place to a heavier rail; together with Chairs and Spikes to correspond, which they will sell cheap for cash; the rails have been straightened and prepared for re-laying, and are now ready for delivery on the dock at Jersey City. Apply at

57 Merchants Exchange,
August 23, 1848.—3t* New York.

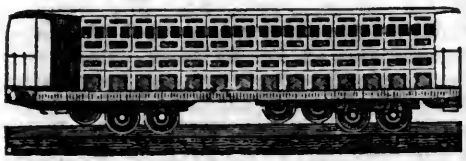
JAMES LAURIE, *Civil Engineer.*

No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.
October 14, 1848. 6m*

CAR MANUFACTORY,

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.
Cincinnati, Ohio, October 2, 1848. 4tf

TO CONTRACTORS.

GREAT LETTING OF WORK ON THE CLEVELAND, COLUMBUS & CINCINNATI RAILROAD.

PROPOSALS will be received at the office of the engineer, in the city of Cleveland, until the 1st day of November next, at noon, for the grading, bridging, and masonry, also timber for the superstructure of one hundred and thirty miles of the Cleveland, Columbus and Cincinnati Railroad, lying between the cities of Cleveland and Columbus. Said work comprises some of the finest ever offered to contractors, and will be let in long or short sections, as may be desired. The approximate quantities are 3,500,000 yards earth excavation, 30,000 perches masonry, 300,000 cross ties, or sleepers, etc.

Plans, profiles and specifications of the work will be ready for inspection at the offices in Cleveland and Columbus on and after the 15th of October next. Payments will be made monthly, on a fair average value of work done; twenty per cent. of which will be retained to ensure fulfillment of contract.

FREDERICK HARBACH, Eng.
September 21, 1848. 3t41

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS,

1y48

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.
New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.
September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS FOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads; and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
:y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

LAP—WELDED

WROUGHT IRON TUBES

FOR

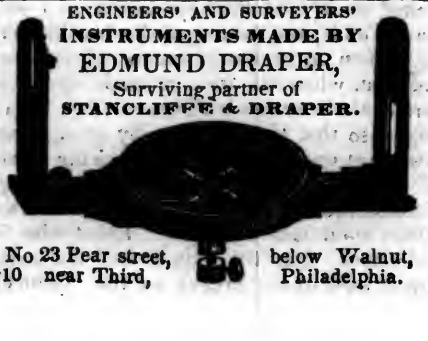
TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Maudslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.
ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

NORWICH CAR FACTORY.
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames* and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

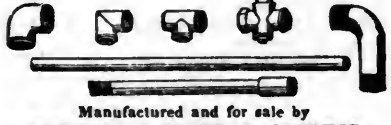
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc. PETER COOPER,
1y10 17 Burling Slip, New York

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

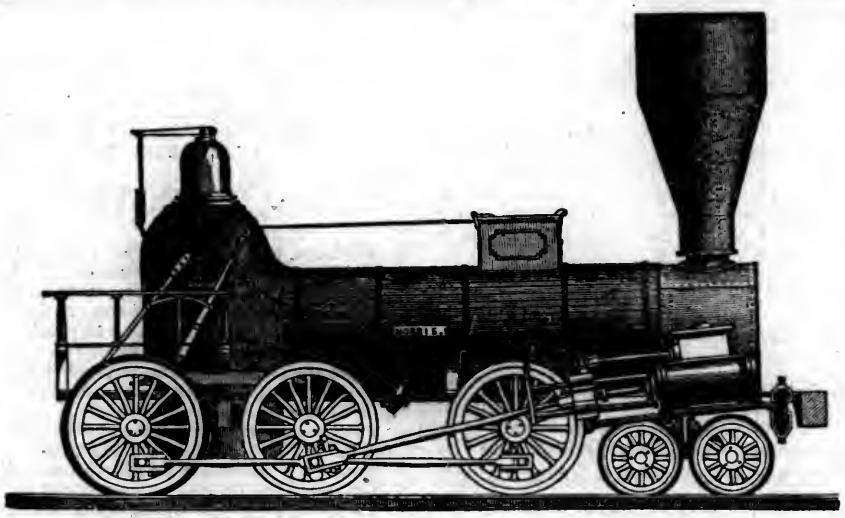
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

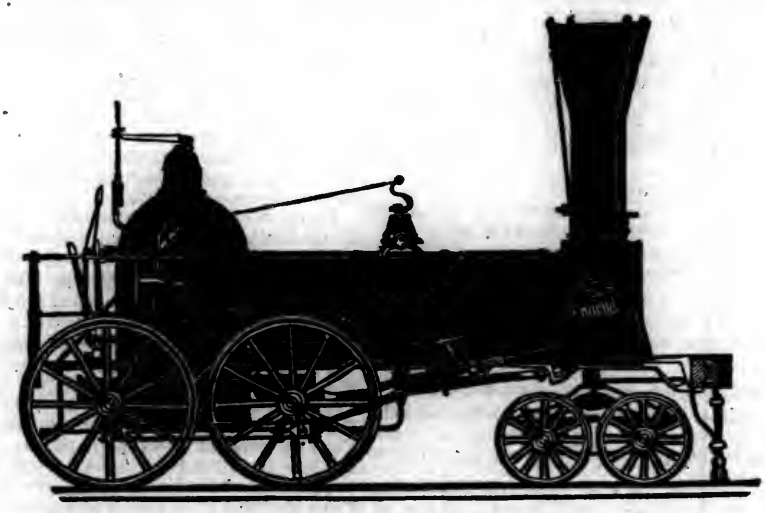
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller. New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.


This Road in connection with the South Carolina Railroad and

Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionaty, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and

Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

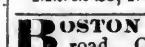
The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the


Trains will run as follows:


Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after

Tuesday, June 1st, 1847, the cars

will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

BOSTON AND MAINE RAILROAD.

Upper Route, to Portland and the East.

Summer Arrangement.


Commencing July 3d, 1848.


Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2½ P.M.
For Great Falls at 7 a.m., 2½ and 4½ p.m.
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.
For Lawrence, at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.
For Reading 7, 9 & 11½ a.m., 2½, 4½, 6, 7, 8½ & 10 p.m

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

MEDFORD BRANCH TRAINS.

From Boston at 6·50, 9½ a.m., 12½ 2½, 5½, 7, 10 p.m.
From Medford at 6·10, 7½, 10½, a.m., 2, 4, 6½, 9½ p.m.

STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, July 3d, 1848.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for


1848.


A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAILROAD. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

321y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves....Albany	7½ A.M.	2 P.M.	7 P.M.
Pass.....Utica	1 P.M.	7½ P.M.	1½ A.M.
Pass.....Syracuse	4½ P.M.	11 P.M.	5 A.M.
Pass.....Auburn	6½ P.M.	1 A.M.	7 A.M.
Pass.....Rochester	12½ M.N.	7 A.M.	1 P.M.
Arrives at Buffalo	5½ A.M.	12 M.	6 P.M.

Going east.	1st train	2d train.	3d train.
Leaves....Buffalo	7½ A.M.	2 P.M.	7 P.M.
Pass.....Rochester	12½ M.	7 P.M.	12 M.N.
Pass.....Auburn	6½ P.M.	1 A.M.	6 A.M.
Pass.....Syracuse	8½ P.M.	3½ A.M.	8 A.M.
Pass.....Utica	12 M.N.	7 A.M.	11½ A.M.
Arrives at Albany	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, Jr.,
Secretary of the Convention.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

125 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon	$1 00
" " " Xenia	1 50
" " " Springfield	2 00
" " " Columbus	4 00
" " " Sandusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

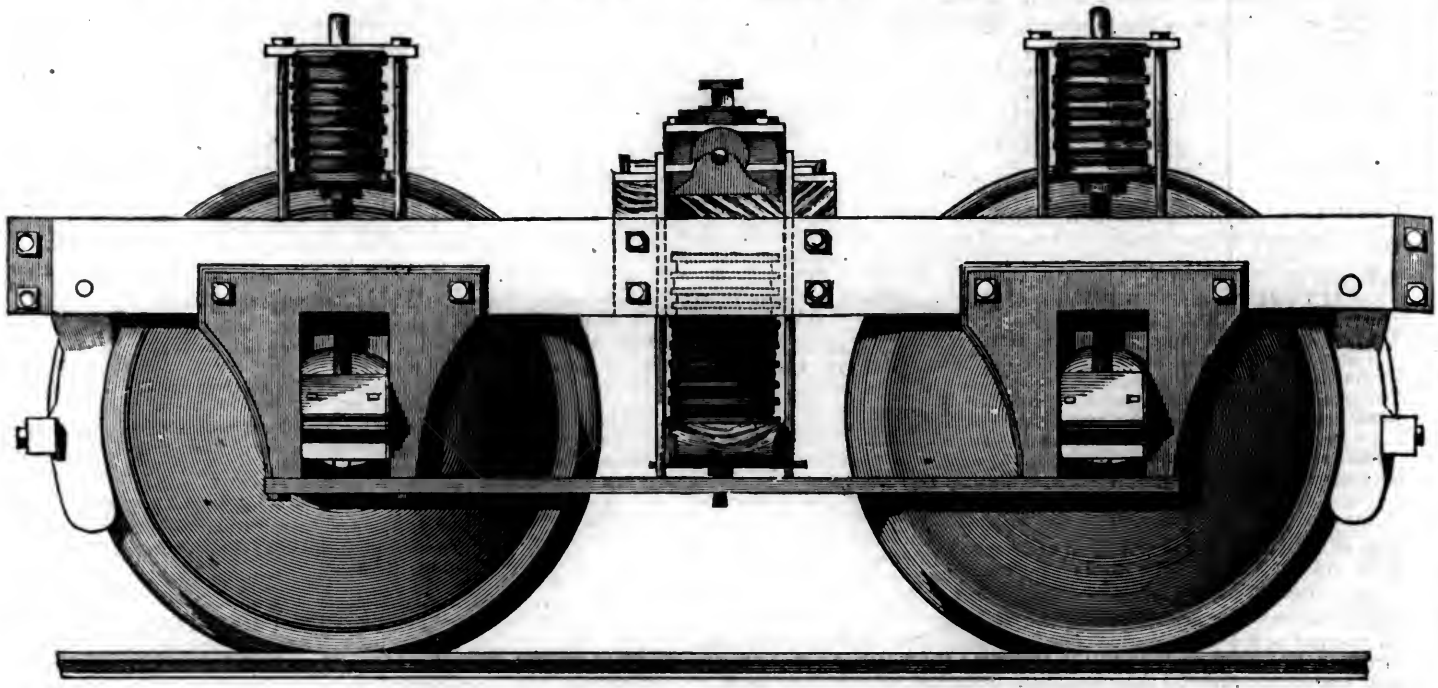
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation on its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One column " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 46.] SATURDAY, NOVEMBER 11, 1848 [WHOLE No. 657, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, November, 11, 1848.

RAILROAD IRON.

THE MOUNT SAVAGE IRON WORKS, Allegheny County, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron.—Communications addressed to either of the subscribers will have prompt attention.

J. F. WINSLOW, President
Mount Savage Iron Co., Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.

November 6, 1848.

Schuylkill Navigation Company.

There was, as we understand, a general meeting of the stockholders and bondholders of this company held a short time since, the object of which was to agree upon some plan calculated to relieve the company from the embarrassments with which it is surrounded. The substance of the propositions submitted for consideration was as follows: That the holders of the loan of 1865 which amounts to about $1,400,000, should agree to commute it at the rate of 75 per cent. in new bonds, and 25 per ct. in stock at par. That is, for every old bond of $1,000 surrendered, the holder to receive a new bond for $750 and $250 in the shares of the company at their par price. This would reduce the loan of 1865 to about $1,050,000. The loan of 1868, which amounts to $3,600,000, to be commuted at the rate of 50 per ct. and 50 per ct. in the shares of the company at par. This would reduce that loan to $1,800,000, and lessen, in the aggregate, the company's indebtedness $2,150,000 —reducing the companies present liabilities for loans from $7,000,000 to something less than $5,000,000. This plan of relief may *aid* them, if carried out! but it will not be a cure for their difficulties, which are *radical*, and can only be removed by an amicable and equitable understanding with the Reading railroad company, by which a fair and *remunerating rate of tolls* shall be charged on both of these noble works. Nothing short of this will restore the Schuylkill navigation company to prosperity and to credit—and the *shareholders* ought to require the *managers* to accomplish this object, or select others who will do it.

☞ Since the above was in type we have received the "Commercial List," of Saturday last, by which we are informed that an arrangement *has been made* between the Schuylkill Navigation and Reading Railroad companies, which promises to prove advantageous to the stockholders of both companies. The editor of the "List" congratulates the friends of both these great and important works, that this arrangement has been consummated. So do *we*.

The following statement, which we copy from that excellent paper, embraces the principal points in the arrangement, which is to take effect on the 1st of January next, and continue until January, 1850:—

"There is to be no increase in the machinery or wharves of the railroad company, between this period and January 1, 1850.

"The price to be charged for toll and freight on the railroad, from Pottsville to this city, is to be 95 cents per ton more than the charge for freight on the canal, from the same point; and the price for toll and freight for the way trade on the two works, are to be in proportion. The tolls and freight on the railroad, and the tolls on the canal, are to be paid in *actual cash*; and no discount is to be paid by either party, except 5 per ct. for wastage, and a dumpage of 12 cents per ton on coal delivered at Richmond; said dumpage not to be allowed on more than two-thirds of the quantity received.

"No direct or indirect bounties or allowances are to be made by either party, nor are any special bargains to be made by which the operators will be compelled to use either work exclusively.

"The quantity of coal to be brought down in 1849 from the Schuylkill region, is estimated at 1,800,000 tons; and it is supposed that the above arrangement will secure to the railroad *twelve hundred thousand*, and to the canal *six hundred thousand* tons, or one-third of the whole amount. The canal company is to be at liberty, if they should find it necessary in order to accommodate their estimated portion of the trade, to increase their cars and landings to the extent of 20 per cent. on their previous facilities.

"The price charged for toll on coal on the canal, is to be 75 cents per ton, and the toll and freight on the railroad $1·70 per ton from Pottsville to this city."

The Western, or Boston and Albany Rail-Road.

We are not only prompted to publish this memoir as a chapter of railroad history for the future historian, and also by way of *encouragement* to companies now laboring under embarrassment, but also to place on record another among the *numerous* instances in which individual efforts, and personal sacrifices—greatly lauded, and appreciated, at the moment of *necessity*—are forgotten, and remain unrequited, by those who have been largely benefitted by those efforts and sacrifices.

The press of other matter on hand compelled us to divide No. 1. of the memoir, and we now give its conclusion. No. 2. will follow at an early day—showing the efforts required to carry the work thro' to Albany, and bring it wholly under Boston management—and it will be found well worthy of attentive perusal.

[No. 1.]

Continued from page 707.

In obedience to the orders of the commmittee, the inventor of the loans to the Western railroad has penned the above brief history of the plan, the successful execution of which has rescued the Western railroad from shipwreck—of the plan, the successful execution of which, has saved the patriotic citizens, who, with enlightened forecast, have sustained it from being pointed at by the finger of scorn of their less far-seeing fellow citizens; which has saved the commonwealth, with a half-finished and profitless iron river, from being the butt of the like scoff, scorn, and ridicule, which is now cast upon many of the great works of internal improvement of our young giant of the west.

In presenting the history of this plan, agreeably to the orders of the committee, it has been the aim of the inventor to give, unadorned, historical facts, in their simplest shape. He has spoken of himself as he would of a stranger, while writing the history of a great event; of an event, which, according to the public voice, (since the declaration of independence,

and the adoption of the constitution of the United States,) forms *the great epoch* in the history of the commonwealth.

The remarkable feature of this plan is, that one mind conceived it, at the exact point of time, beyond which the opportunity of commanding success would have fled; and that the man who conceived it had, in its success, a never-failing confidence, which saw, in every new obstacle, only an occasion for a new triumph of a mathematical demonstration consequent upon this new science—over pre-existing, deep-rooted habits—and indeed over knowledge of *an older date.*

The remarkable feature of this plan is, that the mind which conceived it, kept in advance of public sentiment, unawed, undisturbed; unhesitatingly proposing, and laying the basis to carry, and then carrying new measures, as these new measures became necessary: and that each of these new measures was, like the first, deemed impracticable, when first proposed by him—and doing this at the risk (well known to himself,) of being pronounced visionary, as all men are very naturally pronounced, who, in any very prominent measure, happen to be in advance of the knowledge possessed on that subject by the masses of men. This being pronounced visionary, had, of course, an influence—both seen and unseen—adverse to the pecuniary interest of the inventor, in his other pursuits: and to a large amount.

The plan, even in its first conception, was not simply to obtain the loan of $2,100,000; but it was to enlist the mighty power of public opinion (founded on knowledge and demonstration) for the purpose of causing the mighty power of the aggregate force of the state to be efficiently employed in constructing and *carrying to completion the Erie canal of Massachusetts, and placing it in full and successful operation*—and this original conception was kept constantly in view by the inventor, who, in all his speeches, public and private (to the number of at least, 1,000 speeches a year, from 1837 to 1842) took care to inculcate, on the public mind, the great fact, "that this was a work of such great, substantial and immense benefits to the whole people, that the whole force of the whole people should be enlisted, and should be used *to any extent which might be found necessary to carry the work into successful operation*—the time having arrived, when the industry of Massachusetts, isolated as it was from the great west, could no longer be kept at home, if we allowed ourselves to linger in the rear of this eventful age." By thus elevating, with forecast, the public mind, to the standard of this great purpose, preparation was made to render the second and the third loans palatable, as well as the first loan; and this was done at the very time when some of our friends, who did not attend our caucusses, were at each loan, pledging themselves to the legislators, that no more loans would be petitioned for.

In the execution of this plan, a strict adherance to truth and demonstration was kept constantly in view and was constantly inculcated, as an integral part of our system, in our monitorial schools. This made us sure of triumph in argument, upon any position we assumed, whenever such position (however astounding it might be) was disputed. It made every disputed point only the occasion of diffusing and inculcating some truth, bearing favorably on our plan. It is this simple rule, which, in all our caucusses, converted every opposing speech into a good argument for our purpose, by a good-natured natured demonstration of its fallacy.

No less a task was undertaken, than to make, in public opinion, a total revolution. This public opinion was, from the very outset, well known to the inventor to be decidedly adverse, and met us at every step. The necessity was therefore perceived, from the very outset, of instructing the whole community, and of doing it by establishing monitorial schools, and monitorial teachers, and they were accordingly established. At every large, and at every small meeting, he that listened was himself desired to become himself a monitorial teacher, passing the like request to him to whom he spoke. It was thus that each man, within his own circle, was made an agent to impart around him, the pure, the irresistible light of this new science, and of mathematical truth; and that this circle enlarged, more and more, as does the ring, formed on the unruffled surface of a lake by a pebble thrown into it.

The inventor of the game of chess was told by a mighty king, delighted with his invention, that he might have any reward which he desired. His request was, "one grain of wheat for the first checker of the board, going on doubling up to the sixty-fourth checker." The mighty king instantly ordered the granting of this (as he thought) very modest request. The calculation being made, the king's treasurer had to report to the astonished king, that the countless millions of grains of wheat, for the 64th checker, went far beyond the ability of the treasury. This story was recounted, in our early meetings, and to the great encouragement and comfort of our friends, (in the then feeble and discouraging state of our numbers,) and the like rule was recommended, as the settled plan of campaign. Its irresistible power was dwelt upon. It was requested, and constantly inculcated, at every one of our meetings, public and private, that each man whom you instructed should pledge himself to instruct at least two more, requesting this constantly doubling rule to be constantly kept up; thus reducing it to mathematical certainty that this instruction, and consequent conviction, would soon pervade the whole community.

It was, from the first, perceived that he who undertakes to teach must himself be well informed.—The invention was not a stranger to some of the leading events, in the cause of internal improvements—from the incipient motion of John Quincy Adams, in the senate of the United Sates, whence grew the celebrated report in 1806, by Albert Gallatin (then secretary of the treasury) giving (as far as the then state of the science would permit) the great outline of the great system, as since unfolded—and from the earlier conceptions of the Erie canal and of the Chesapeake and Ohio canal, by Gen. Washington—to the history of the incipient stage and progress of these improvements in New York, Maryland, Pennsylvania, and other parts of the United States. The inventor of the present loans had, in his possession, the early common sense explanation of the railroad system, which had been published for the benefit of mankind, by the society of internal improvements in Pennsylvania, and by an enlightened member of the Western railroad board of directors. He had not been an inattentive observer of the progress of the railroad system in our own state. But, yet, he felt the importance of procuring other and more light; and indeed of procuring all the light which could be procured. The French authorities were therefore ransacked. The talented work of Poussin and of Gen. Bernard, the fruit of sixteen years' researches in the United States, was purchased and carefully studied. Moreau's researches of the railroad art, and his lessons to the French people, were also procured and attentively considered. Light, from England, was sought and found, in the excellent work on railroads, published by Strickland, the celebrated engineer, whom the enlightened and liberal Pennsylvania society of internal improvements, had, at its own expense, sent to England, to make a study of the science. The New York canal commissioners were written to, by Wm. Savage, the chairman of our corresponding committee, and kindly threw the light shed by the great results of their great works. And, in addition to all this, contributions of information of every kind, bearing on our great purpose, were constantly, at every meeting, public and private, invited from every listener, and every listener's friends. Thus was an impetus created, fostered and cherished, which made the knot of men, clustering around the inventor of the loan, the focus at which the rays of light of this new science thus naturally concentrated and whence they irradiated.

In the first stockholders' regular meeting, for the first loan, November 23, 1837, and in the earlier caucusses, Boston was, by the reading of statistics of its own trade, astonished at its own greatness, when compared to other cities: and astonished at its own capabilities for its high destiny—and was inspired to action.

The distinguishing feature of this invention is, that he who conceived it was also constantly, unremittingly, night and day, in the field, as well as in the cabinet, engaged, to the very end, in carrying it forward to successful operation, exposed, unmoved, and undismayed, to the intense fire, to which the van guard, in a great battle, is usually exposed; and that he happened to be an individual, whose opportunities had enabled him to judge that a measure can be carried from its own intrinsic good sense—even if everybody deems, at first blush, the carrying of this measure an impossibility. He judged, from the nature of the case. He had learned from experience, in other campaigns, that the sure way to move the leaders was to convince, and thereby impel the masses. He knew that the masses had good sense and patriotism; but he also knew that patience and perseverance were indispensable, in teaching this new art to the masses of men; and he accordingly went to work, regarding an opponent only in the light of a candidate to be convinced, and thereby to be converted to the true faith.

All which is respectfully submitted.

Railroads in Cuba.

We are indebted to a friend for a manuscript copy of a late report made by Manuel Jose de Carrera y Heredia, civil engineer, of Matanzas, in relation to the Sabanilla railroad company's extension to Navajas, and its connection with the Havana and Cardenas railroad, for which he will please accept our thanks.

The road here proposed will be about 18·1 miles in length, and is estimated to cost for grading $110,520, and for superstructure $296,783, making the total of $407,303, and equal to $22,600 per mile.

The aim of those interested in the construction of this road appears to be to form a connection of the Havana road with the roads from Matanzas and Cardenas, and thus effect an easy and rapid communication between the capital—Havana—and the other principal seaports of the island; but as we have not our map before us, we cannot speak of the subject as we desire, and will therefore leave it for the present, and refer to the following account of other roads furnished by the same hand. It will be found quite interesting, and will do credit to a worthy American, and friend, Don Santiago Clarke.

Havana, September 1, 1848.

To the Editor of the American Railroad Journal:

In the multiplicity of novel and strange things

which nature is constantly presenting to the observation of an American, when visiting the Island of Cuba, he cannot overlook those to which he is more accustomed, but which tend so much to his comfort as a traveller. I allude to the railroads; and as a short description of them may be interesting to your readers, I send you the following description of some of them—and first of the

HABANA AND GUINES RAILROAD.

"The railroad from Habana to Guines was commenced in the year 1835, and finished to Garciny, about one mile farther out of town than Villamuva, its present station of commencement, at the close of the year 1838.

In 1840 the road was brought in town, and the location of Garciny abandoned.

It was built by order of, and with funds furnished by, the Real Junta de Formento, under the immediate supervision of the commissioners from that body, Senores Meguel Anto. Herrera, Antonio Maria Escoveda. The "Intendente," Conde Villamuva, president of the Royal Junta, was one of the most zealous friends of the enterprise.

From Villamuva to Byucal, 17 miles, the road was graded for a double track, and from thence to Guines, 27¼ miles farther, the bridges, and other works of masonry, were calculated for the same purpose. In the first instance, the rails of the first 17 miles were laid on blocks of the soft limestone of the country, into which the chairs sunk so much, that for greater security wooden cross ties were afterwards substituted, so that now there are very few bearings of stone in use.

The rails are of the English T pattern, weighing 45 lbs. per yard, with chairs weighing about 18 lbs. at each 3 feet into which the rails are fastened by iron keys.

In this distance of 44¼ miles, there were 9 stone arch bridges, varying from 20 to 50 feet span, all of which, save one, were carried away by freshets prior to the year 1842; and have since been replaced by truss bridges of greater span, made of the hard wood of the island, on cut stone abutments. There are only two gradients as high as 32 feet per mile, and no curves of less than 1600 feet radius.

The road was built under the direction of ALFRED CONGER, Esq., civil engineer, (B. H. Wright, a son of the late eminent Judge Wright, was associated for the first 13 miles,) who also was the chief engineer of the Jucaro, Matanzas and Coliseo railroads.

In 1841, the road to Guines, including all the outfit of engines, cars, etc., was sold to a company of 25 individuals, for three millions of dollars, with the obligation to construct, within six years, one branch to the south coast at Batabano 10 miles long, one to San Antonio, towards the west, of 8 miles, and prolong the main lines 21 miles to the partedo of "Los Palos." The company also reduced the rates of fare, of the first class, 50 per cent., of the second class, 33 per cent., and of the third class, 24 per cent. on the charges existing at the time of the sale.

THE BRANCH TO BATABANO, was commenced at the close of 1842, and finished in December, 1843. It is graded for a single track, and laid with cross ties of the durable hard wood of the island, with the H, or American pattern of rail, weighing 56 lbs. per yard, having no grade exceeding 20 feet to the mile; and only 1800 feet of curved line. There is a wharf at its termination at Batabano, with double track, 1200 feet long, extending out to 10 feet depth of water.

Its cost, including wharf buildings, etc., is $134,243, or $13,424 per mile—being $19,000 less than the estimate.

THE SAN ANTONIO BRANCH was opened in December, 1844, is 8 miles long, and extends from the main line at Rincon, 14 miles from Habana, to the town of San Antonio; the least curvature is 5730 ft. radius, and the grade (the greatest) descending to the valley in which the town is situated of 33 feet per mile. It is graded for a single track, laid with *quebra hacha*, or break-axe wood, cross ties, with the same kind of rail as the Batabano branch, or 56 lbs. per yard.

The road has been in use nearly four years, and is now probably the smoothest and best in the new world. The passenger house at San Antonio, is a very pretty stone building, the store house much like those of Los Palos and Bernega.

The quebra hacha wood is here called eternal. I have seen wood (posts) that have been from 50 to 100 years in the ground, and still sound.

The road cost about $115,600, with buildings and turnouts, etc., or $14,450 per mile—being about 25,000 less than the estimate.

The extension of the road from Guines to join the Matanzas road at Reyes, or La Union, was commenced in January, 1846, and on the 1st inst. opened to Bermega, 27 miles from Guines, or 72 miles from Habana; there still remains 5¼ mile, which is almost graded, and will be opened on the 1st of November, when the Habana and Matanzas road will be joined, and the distance between the two cities will be 98¼ miles.

This road is built in the same manner as the two preceding branches, excepting that they have used the Maine cedar and chestnut cross ties, 9 feet long, and flattened on two sides, with 7 inches dressed face, and 7 inches thick between the sides. These are larger than are generally used in the States.—All of the bridges are built of the hard wood of the island, with abutments of cut stone. The store houses and other buildings are all of masonry, and the whole work is built in a permanent manner.

The line is remarkably straight and level, there being but four curves in the 32¼ miles, one at the departure from the main line, one at the junction with the Matanzas road, and two intermediate, comprising a total of 7000 feet of curved road, with radii of 2,865, 3,820, and 5,730 feet. There are about 2¼ miles of road with 30 feet grade to the mile (the limit), about as much more at 26·4 and 21 feet per mile, and the remainder level, or below 19 feet per mile.

The company are also extending the San Antonio branch road to Guanagoy, a town of about 4,000 inhabitants, situated in the "Vuelty aboga," 14 miles northwest of San Antonio. They expect to open to the public 8 miles this year, and finish the road by the 1st of July next. The road was estimated to cost $250,000, but will probably not cost more than about $210,000.

When these roads shall all be constructed, the Habana railroad company will own as follows:

Main line from Habana to La Union—miles...	77¼
Branch of Batabano.....	10
Branch of San Antonio and Guanagoy.....	21¼
Total of miles.....	109

They have now 6 engines of 18 to 19 tons.
6 " 13 to 15 tons.
3 " 16 tons.

And 8 first class double coaches: 5 second class; and 8 third class, and about 350 freight cars.

In their shops they make all the wood work of their cars, and second and third class coaches, and repairs of engines. The latter are from the establishments of *Rogers, Ketchum & Grosvenor*, of Patterson, and *Baldwin*, of Philadelphia.

Last year there passed over the road about 135,000 passengers, and the total receipts amounted to upwards of $400,000.

The company employ *celadors*, or watchmen, on the road at every league, authorised by the government to arrest, and take to the nearest judicial officer, all trespassers upon the line, who are generally fined $4 for a simple trespass, and in case of doing damage, made responsible according to the criminality.

These "caladors" are armed with a lance, and flag on it, to give signals if there is any obstruction on the road; and where the English T rail is used, they carry a hammer and drive the keys in the chairs, also advise the repair carpenters—who have stations of six miles each—of any points that require immediate repair; in case the engines are out at night, they carry a lantern, and make signals with it, as occasion may require.

They are paid by the company, and immediately responsible to the administrador general."

The railroad and branches above described are under the management of SANTIAGO CLARKE, Esq., as chief engineer. This gentleman who is an American, and was formerly connected with the canals and railroads in the States of New York and North Carolina, has the entire confidence of the company, and most richly does he deserve it. Familiar as I have been with the management of railroads in the United States for the last twelve years, I can truly say that I have never seen or known one which—in caution to prevent accidents, vigilance in making timely and proper repairs, promptness in starting of trains, careful supervision of machinery, speed of engines, and attention to all the interests of the company, and of the community—has been exceeded by the *Havana railroad*, and those who manage its affairs. It may perhaps be considered as something new, that any of our railroad companies in the U. States could take lessons from one under the Spanish government, but I fear such is the fact, and that this would be your own decision, were you here to examine for yourself. The credit, however, of excellent management on this road, must be divided between Mr. Clark the chief engineer, and JOSE A. ECHEVERRIA, administrador general, or what in the United States would be called the general superintendent of the road, as he has the entire charge of all the passenger and freight business. ****

We are gratified to learn that the railroads in Cuba are so well constructed. In relation to that "*quebra hacha*," or "*break-axe wood*, we should like to know more. Is it *abundant?* and easy of *access?* —If so it may be found vauable for other purposes. Will some one please give us more definite information on the subject?

Northern (New York) Railroad Report.

We have received the annual report of this company, dated 5th June last, showing the progress made thus far. The entire line has been located and put under contract—and the work was commenced on the western part in December last, and on the eastern half in April, and is progressing with energy; and timber for the superstructure and iron for a portion of the rails contracted for.

The right of way has been mainly secured—over two-thirds, or 808 acres, have been ceded without charge, and the remainder, or about 440, will cost about $14,000—bringing the average cost very low, or at about $11 per acre.

The company have done a wise act in securing ample ground at Ogdensburg, and other places, for depots—at Ogdensburg, 62 acres, with a water front of 4,000 feet, accessible to any vessel navigating the lakes. This is as it should be, as it will never be worth less than its *cost* to sell, though it would cost the company *many times* what they have paid for it, if they wanted to enlarge, after the road is in use.

We are pleased to find our old friend, Col. Schalter at the head of the engineer department. He will ensure to the company a vigorous prosecution of the work, and to the public, a good work when it is completed.

This road is to be connected by a bridge at Rouses Point, across the outlet of lake Champlain, with the Central Vermont railroad, and Rutland railroad, *extension* beyond Burlington, by which a train of cars may pass from Ogdensburg direct to Boston, and to Portsmouth, New Hampshire, and Portland, in Maine, without unloading, when the road from Concord to Portsmouth, New Hampshire, shall be completed—thus giving a choice of three seaports for shipping their contents. We give the report entire, except the details of right of way.

Report of the directors of the Northern rail road company, New York.—Submitted to the stockholders, June 5th, 1848.

To the stockholders of the Northern raiload company.

The report, submitted to you at your last annual meeting, detailed the measures adopted by your board, in the location of the Northern railroad, through St. Lawrence and a part of Franklin counties, from Ogdensburgh to Malone, a distance of 62 miles. The progress of the surveys has since enabled them to complete the location 52 miles further, to Dewey's farm, a point in Clinton county, four miles from the eastern terminus of the road at Rouse's point. The final location of the remaining short distance, having been deferred only to admit of the exercise of every due precaution in concluding negotiations for grounds and privileges so important to the company there. These are now in the main secured, by a liberal grant from the general government, and some minor arrangements, in the course of immediate settlement, alone delay public notice of the location at this point, fully decided upon by your directors.

At the meeting of your board, in October last, contracts were entered into for the grading of the whole line of your road, under two contracts with resposible parties, about equally dividing the distance, and by the terms of which, the entire line, by given instalments, is to be completed, ready for the super structure, by July, 1849. The work done under these contracts, commenced on the westerly half of the road, in December. It was necessarily limited, during the season of frost, to such points as would admit of it. Since then the force has been augmented, amounting now to nearly 1,000 men, and is about being further largely increased. On the easterly half of this line, ground was only broken on the 19th of April, but the well known energy of the contractor to whom that work is committed, offers a sufficient guarantee for the proper and timely performance of his contract; by the terms of which, 30 miles, beginning at the lake, are to be graded and ready for the rail by October next. A third contract had been entered into by your board, for the extensive masonry of the Chateaugay and Salmon river crossings, the former the most important feature in the road. The unexpected difficulty in finding a suitable foundation for the heavy structure here projected, has necessitated an entire change in the plans for overcoming this chasm. The new plan, being to turn the river through a tunnel under the embankment, compares favorably with the one first projected, in point of expense, and time necessary for construction, and has the recommendation beyond, of superior safety and solidity; it has, therefore, been adopted by your directors. This needful change in construction, has led to some delay and modification of original contract, by which this portion of the work has been retarded—but not sufficiently, it is hoped, to prevent its completion by the time originally intended.

During the past winter, contracts have been made for ties, timber, and fencing materials, sufficient for all the requirements of your road for such material, until new supplies can be obtained next winter.

At the meeting of your directors, in March, contracts were closed, on favorable terms, for six thousand tons of iron; also for chairs and spikes; further, for a sufficient number of cars and engines, to commence running the road; and a contract has also since been made, for the delivery of the iron at Ogdensburgh, and Rouse's point.

The settlements involved in securing the right of way, and requisite land for stations and other purposes, along the whole line of your road, have had the unremitting attention of Messrs. Russell and Horton, upon whom this very arduous and responsible duty was devolved. These show, that from the terminus at Ogdensburg to Champlain village, a distance of 114 miles, nearly all the lands necessary for roadway have been secured, and of a width throughout sufficient for the demands of a double track.

Of the whole 1,206·009 acres, taken for the 114 miles of roadway:

808·432 acres have been voluntarily released:

262·001	acres have been secured by agreement, at the cost of	$6,296 67
23·974	acres have been appraised by law, at	1,195 31
112·575	Leaving still to be settled for, involving an estimated expenditure of	2,000 00
1,206·009	Adding to this the estimate of for cost of roadway still to be secured, from Champlain village to the lake, 4 miles, equal to 40 acres, and we arrive at less than as total cost of roadway, for lands, (about 1,250 acres,) which with usual costs and damages, under legal appraisal, would have cost the company probably not less than ten times that amount. Besides, these grants for mere nominal considerations, give the company a title in fee, relieved from restrictions of legislation.	4,000 00
		$14,000 00

The lands purchased for other purposes than roadway—for stations, materials for construction, and to avoid a larger expense for farm crossings, consist of 285 acres, at a cost of $15,344 42. The principal expenditure, under this head, is at Ogdensburgh.—At that point, an area, of 62 acres has been purchased, promising a terminus every way worthy the importance of your road, by offering an ultimate water front of 4,000 feet, accessible the entire distance to any vessel navigating the Western lakes. This probably unequalled location, must inevitably constitute the future centre of the harbor of the "city" of Ogdensburgh, and become of incalculable value to the stockholders, and to public accommodation.

At other points of the line, the most eligible grounds for stations have been secured; and whenever these wants of the company could not be definitely determined, as at Rouse's point and Champlain village, refusals for similar lands have been obtained.

The directors refer to the schedule, laid on the table, for further details on lands and stations.

The location of the Northern railroad, made in strict conformity to the true interests of the stockholders, has nevertheless been a source of disappointment to a few localities, and been made the cause of some unfriendly proceedings on their part, against your company. These the action of our legislature, and the expression of public opinion, has finally and satisfactorily disposed of; and what remnant of disappointment still remains, would seem to be wearing off, if the increase in the voluntary payment of assessments is any proof—for here we find of 2,161 shares registered in Canton, Potsdam, and south, 802 shares as having complied with the assessment. Your directors feel encouraged, therefore, to express confidence in the gradual, voluntary liquidation of the balance, and in an amicable and friendly reunion with some of the earliest and most ardent friends of the road. Under any circumstances, the solvency of the amount due on this part of our local stock, from the character of the large majority of the holders, need not be a subject of doubt.

Our application to the legislature, for the grant of the privilege of connecting your road by a bridge at Rouse's point, with the Vermont shore, was retarded during the last session, by reasons partly connected with the just mentioned causes. This has afforded the opportunity of a thorough investigation of the subject, and given rise to several reports, all favorable to your application. The time consumed thereby, and the short session, prevented final action on the bill. Your directors hesitate not, however, to state, as their unqualified conviction, that the legislature is prepared to pass this bill, at the coming session; and not as a favor extended to Northern New York, but as an act of sound policy and interest to the state at large.

The importance of a connection between the Northern railroad and the city of Montreal, has long had the attention of your board, and led to negotiations, the satisfactory

result of which to your interests, cannot be doubtful; as such connection is even more important to that city than to your road.

At the last meeting of the board, in March, when the final report of surveys was received, a new organization of the engineer corps was deemed called for. with the view of affording the necessary efficiency to meet the great demands made upon it. And your board accordingly engaged the services of Col. Charles L. Schlatter, as your chief engineer. Col. Schlatter has divided the line into three engineering divisions, making his the chief office at Malone, where the most important works occur—with Mr. S. H. Kneass, on the Western, and Mr. T. J. Carter, on the Eastern division, as principal assistants. The short period which has elapsed since these gentlemen were appointed, the unprepared state of the work for active contracts, and the rate at which they are conditioned to be carried out, over 118 miles of road, rendered an efficient engineering force a subject of the first importance and attention; and that by the present appointments, this condition has been achieved to a degree not ordinarily met with, your directors are fully satisfied of.

The board has called upon the stockholders, for two assessments, amounting to 20 per cent. The condition of which, with that of the general finances of the company, will appear from the treasurer's statement.

The foregoing is a brief review of some of the acts of your board, during the past year. They might further enlarge on matters of general or local interest, but they forbear; having, by what has been said, given the stockholders all necessary insight into the management of their affairs, which the Treasurer's report will complete.

In conclusion, the directors would again record their constantly increasing confidence, in the importance of the Northern railroad, and in the value of its stock, and commend it to your undiminished confidence and support.

Northern Railroad Company, (N. Y.) in account with Samuel H. Walley, Jr., Treasurer, to May 15, 1848.

	Dr.
To incidental expenses	$10,201 56
To engineering	30,529 79
To land damages	8,435 03
To grading	15,938 69
To timber, fencing, etc	5,667 27
To interest	7,156 95
To iron	6,775 00
To engines	1,500 00
To Geo. Parish, paesident, cash on hand at company's office, Ogdensburgh	50,321 75
To notes receivable, loan on demand, with collateral security	101,440 00
To amount on deposite in Market bank.	5,519 97
To cash in drawer	323 65
	243,809 66
	Cr.
By assessments, being for amount paid to this date	$234,758 00
By exchange account balance	9 86
By contingent fund, interest, etc	9,041 80
	$243,809 66

SAMUEL H. WALLEY, Jr., Treasurer.
May 15, 1848.

N. B. More than $50,000 have been received on the account of assessments, since May 15th, the date at which the books were closed; and more than $40,000 have been paid out at Ogdensburgh, since that date, on account of work done upon the line of the road. S. H. W. Jr.

Champlain Village, N. Y., June 5, 1848.

We, the undersigned, Committee on Accounts, have examined the payments made by the treasurer, as stated above, and find them all correctly vouched. B. T. REED,
T. B. CHANDLER.
Committee.

OFFICERS ELECTED FOR THE YEARS 1848–9.

Directors.—Abbot Lawrence, Boston; G. Parish, Ogdensburg, N. Y.; J. W. Edmands, Boston; Charles Paine, Northfield, Vt.; I. Spaulding, Nashua, N. H.; J. L. Russell, Canton, N. Y.; Geo. Redington, Wadington, N. Y.; B. T. Reed, Boston. T. B. Chandler, Boston; Wm. H. Harrison, New York; H. Horton, Malone, N. Y.; George V. Hoyle, Champlain, N. Y.; A. C. Brown, Ogdensburg, N. Y.

President.—George Parish, Ogdensburg.

Treasurer.—Samuel H. Walley, Jr.

Secretary.—James G. Hopkins, Ogdensburgh.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 28th ult., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Oct. 31.	4,352 03.	202,117 13
By Room Run "	3,282 00.	109,004 00
By Hazleton	2,087 00..	79,683 00
By Beaver Meadow	2,781 17..	75,814 09
By Buck Mountain	2,648 10..	65,584 11
By Spring Mountain	1,647 11..	56,855 19
By Cranberry Mines	1,085 00..	13,705 00
White Haven	275 01..	9,372 06
Diamond Co	626 04..	4,972 11
Total	18,785 06.	617,109 09

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 2nd inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	9,150 00
" Pottsville	5,285 02
" Port Carbon	8,286 17
" Port Clinton	3,006 17
Total this week	25,728 16
Total this year	1,077,829 16

The amount of coal brought to market by the Schuylkill canal during the week ending the 2nd inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	7,414 02
" Schuylkill Haven	3,798 19
" Port Clinton	636 10
Total this week	11,849 11
Total this year	386,272 08

Recapitulation.—Total Shipments this Season.

By Lehigh companies	617,109 09
By Reading railroad	1,077,829 16
By Schuylkill canal	386,272 08
Total	2,981,211 13

Cheshire, N. H., Railroad.

Third Annual Report, May, 1848.

From some cause we have not heretofore met with a report of this company, and have not therefore been familiar with its progress and condition; but when recently at Boston, we availed ourself of the courtesy of the able superintendent of the Fitchburg road, S. M. Felton, Esq., to make an examination of the road under his charge, and also of the Massachusetts and Vermont, and the Cheshire roads.

These two latter roads are, as will be seen by referring to the map, extensions of the former, from Fitchburg, diverging from Gardiner, 10 miles from Fitchburg and 60 miles from Boston. The Massachusetts and Vermont road bears almost due west, until it crosses the Connecticut river, where it turns northerly to Brattleboro', to be continued to Bellows Falls, and southwesterly to Greenfield, where it connects with the Connecticut river road, to Northampton, Springfield, Hartford, and thence to New Haven and New York. It is proposed to construct a road from Greenfield westward to North Adams, and thence to Troy, N. Y.—which is now much more likely to be accomplished than was the Western road in May, 1837. The Cheshire road takes a northwesterly course to Keene and Bellows Falls, whose third annual report is given herewith, is now completed, and in very successful operation, 32 miles to Keene, and the remaining part to the river will be completed in a few weeks. There are few lines in the country of equal length, on which there has been so much heavy cutting. A few miles west of Keene is a cutting, through granite rock, of appaling magnitude—being over 4,000 feet in length, and varying from 20 to 50 feet in depth. It has been, however, successfully completed, and the superstructure is now laid through it, so that locomotives can pass with materials for the line beyond.

The grades upon a part of this line for several miles, are as high as 58 feet to the mile, in the direction of the heavy trade; yet it has been thus far completed in the most thorough manner, and we can, without fear of contradiction, say that it will compare *favorably* with the *best* built roads in the Union.—Indeed we have seldom passed over a road constructed as well; the superstructure being of the most substantial character, laid on gravel or sand balasting upon the natural soil, and in the cuttings the roadbed is raised nearly two feet, with side walls to the drains, thus ensuring a free passage to the water. When completed to the river, it will connect with the Sullivan road, up the valley of the Connecticut, to Windsor, where it will connect with the *Vermont Central*, and the Passumpsic river roads, and also, and *especially*, with the *Rutland* road, from Bellows Falls to Burlington, where it will receive its share of the business from the Ogdensburg road, and a connection with Montreal.

The *Rutland*, the *Vermont Central*, the *Passumpsic river*, and the *Ogdensburg roads*, are all progressing rapidly, and will all be completed by July, 1850—*or before*—when the Cheshire road will *just begin* to feel their influences, and its shareholders to learn how far short of the truth were their estimates of their own position, and the soundness of their investment.

To the sagacity and perseverance of their able president, Thomas M. Edwards, Esq., and to the ability and untiring efforts of their chief engineer, L. Tilton, Esq., well sustained by the board of directors, are the stockholders deeply indebted for a work which will add to the value of property on its line many times its cost, while it will pay a regular large return upon their investment.

We have before us the three annual reports, but only publish the last, which comprises all of present interest to our readers. The distance from Boston to Ogdensburg by this route will be about 380 miles. The report says:

REPORT.

Agreeably to the by-laws, the directors present to the stockholders their third annual report, showing the condition and prospects of the corporation, on the first day of the current month.

In our two former reports, we endeavored to give a full history of the progress of our enterprise from its commencement to the respective periods at which they were made.—It only remains to us to bring that history down to the present time, to make an exposition of the present state of our affairs, and to speculate, as we may, in good faith, on our prospects for the future.

During the past year, it has been our purpose to prosecute the work, on all parts of our road, with the utmost diligence. In this the engineer has fully co-operated. We have felt sufficiently impressed, we believe, with the importance, in every point of view, of the earliest possible completion of our entire line; and if in the dispatch with which we have moved forward, we have at any time failed to keep pace with public expectation, it has arisen from no indifference on our part to the wishes and wants of the stockholders and of the public at large, but to peculiar circumstances in which we have been placed, and to unavoidable difficulties and obstacles which required time to overcome and remove. It was our expectation, at the last annual meeting,—and so stated in our report,—that we should reach early in the past winter the point to which we have opened the road but to-day; but when it is known that the heavy work at our extreme southern terminus, at the very entrance upon our line,—a work second only to our somewhat famous cut at the summit, on our northern division,—was not, and could not, after it came into our possession, be completed, under the most competent management, until the first of October, it will require but little experience in railroad making to understand that after that late period in the season, in this climate, we could hardly expect to compass thirty-two miles before our progress should be arrested by the frost of winter.—Under these circumstances, we were enabled to complete twenty-two miles, to Troy; and having, at the same time, succeeded in finishing the grading where we could not reach with the track, with a favorable spring and a good degree of energy on the part of those on whose labor it depended, we are enabled now, when assembled for the transaction of our usual business, to exchange congratulations on the completion of the important division of our work, extending to this place.

With three-fifths of our road then, so far finished as to be fitted for safe and convenient use—with more than three-fourths of the work done on the remainder of the line, and with what is unfinished in a good state of progress,—we feel warranted in the assurance, that in the absence of unexpected difficulties, the whole road will be finished and in use within the current year. The last and only remaining contracts preparatory to that result, incumbent on us to make, were closed some weeks since with H. R. Campbell, esq., for the construction of the bridges in Walpole, over the Cold and the Connecticut rivers.

In these contracts, as well as all others for work or materials, we have endeavored to secure both of the best quality,—we have bargained and are to pay for structures at these important crossings which shall be convenient, safe, and durable, and shall be greatly disappointed if we are furnished with those of any other description.

OPERATION OF THE ROAD.

On the fourth of October last, the road was opened for passengers, and on the sixth of October, for freight, from the junction to Winchendon,—eight miles; and on the twenty-seventh of December, for both to Troy,—twenty-two miles. Two passenger trains, and one freight train, have been run over the road daily; and we are happy to say, during the time without the slightest disaster or injury.

The passenger train, although over a new road, has been run without a single interruption, and with the full average speed of New-England railroads: performing its trips of twenty-two miles in an hour.

It is hardly to be expected that so short a piece of road, with the competition with older roads which it has to encounter at the outset,—a competition which the earlier roads have been exempt from, much to their advantage, but which most roads hereafter must meet,—will be overflowing in its receipts or its profits: but when we consider that it requires time to concentrate business in new channels; that in comparison with the whole ground covered by our expenditures, but a small part has been in use; that the winter months are usually the least fruitful to all railroads: we feel that we have reason neither for disappointment or dissatisfaction in the results thus far.

The amount of road in operation to the first of May, is equal to an average of eighteen and a half miles for six months. The amount of earnings for the whole time on passengers, is ten thousand and on freight, about twenty thousand dollars,—equal to sixty thousand per annum on eighteen and one-half miles of road. These amounts are not stated with fractional accuracy, but vary but little from it.

That there will be a steady increase of business, we entertain no doubt. Every extension widens our sphere of operations.

The extension which we add to-day, we regard as highly important; and when we reach our northern terminus, we open upon a much broader sea.

We have ample means for accommodating and doing our present, and a much larger amount of business. In the construction of our depots, and other arrangements, we have had reference to future as well as to immediate use. While we have been desirous of avoiding all ostentatious extravagance, we have considered it but wise economy to provide and furnish the road thoroughly and liberally.

We have now on the road in good condition for use, six locomotives,—one of eleven tons; three for passenger business, of eighteen tons each; and two, for freight,—one of twenty, and one of twenty two tons; four passenger cars, and two others in progress; seventy-two freight cars, and fifty more ordered.

Being thus prepared for business, and intending at all times to be fully prepared, we trust that our friends above us on the line, who have cheered us on in the beginning, and who will rely upon us hereafter for alliances and connections which will be reciprocally beneficial, will suffer no portion of their patronage to be withheld from us now, when it will be most useful, and not merely in a pecuniary point of view, but as justifying our enterprise and disclosing its capabilities,—and especially, when by so doing, they will facilitate their own labors, by establishing for their own enterprises, less advanced than ours a confidence in advance, arising from our success.

FINANCES.

In railroad matters, this is always an interesting and important topic. The large amount of means required for the construction of the various railroads now in progress, has occasioned heavy drafts on the resources of the community. The appeals in favor of one project or another, are frequent and unceasing. That they are answered in some instances with hesitancy and delay, is less a matter of surprise than that in so many instances they are answered at all. Although we have had occasion to disburse a very considerable amount of capital, we have experienced far less difficulty than is usual in obtaining it. Our stockholders have been prompt to their engagements, and the confidence in the ultimate success of our enterprise has continued unabated from the beginning.

From statements furnished by the treasurer, it appears that the whole amount received into the treasury, from all sources, from the beginning to May 1, 1848, is .	1,665,190	06
That the whole amount of disbursements during the same time, is . . .	1,641,436	45
Leaving a balance on hand of	23,753	61

The particulars of the disbursments are as follows:—

For preliminary expenses . . .	2,875	50
" incidental expenses, . . .	13,250	21
" land damages, including valuable property that may be sold or rented, and wood lots, ...	71,462	49
" engineering, ...	24,125	69
" fencing, ...	6,671	57
" miscellaneous, ...	7,106	49
" station buildings ond fixtures	14,725	98
" superstructure	242,553	22
" grading masonry and		

bridging, ...	1,122,843 58
" road furniture	78,370 63
" 1st dividend of interest, . .	46,880 59
" interests on bonds, . . .	10,570 50
	1,641,436 45

In providing funds during the past year for the prosecution of the work, the directors have availed themselves of the recommendations of the stockholders at their last annual meeting. The first measure adopted, after applying the assessments received on the original capital, was the creation of bonds to the amount of five hundred thousand dollars. Of this amount, four hundred and six thousand, six hundred and fifty dollars have been negotiated at par, with the exception only of a brokerage commission, allowed in some cases, of one-fourth of one per cent. on the amount of the bond. The residue remain undisposed of, and can very readily be converted whenever the avails are wanted.

The second measure of supply was the disposal of something more than five thousand shares of stock in the possession of the board, taken, with very few exceptions, by stockholders and bondholders,—more than four-fifths of the amount having been taken by stockholders in the proportions in which they held old stock.

With these means, we have been able to meet promptly all engagements.

Our available means for future use we estimate as follows:

Balance due from stock disposed of by vote of Jan. 15, 1847,	259,808 00
Do. from old stock, ...	23,000 00
Cash on hand, ...	23,753 61
Bonds on hand	93,350 00
Shares in capital stock not yet disposed of	90,800 00
	490,711 61

When the above shall be converted and used, we shall have applied all the capital created,—or yet authorised. Whether this shall be found quite sufficient or not, we feel assured of being able to supply without difficulty any deficiency likely to exist. The time has past, if it ever existed, when the final completion of the road could be regarded by any one as questionable. It is now only a question of a few weeks, in point of time,—earlier or later. But still, in this point of view important to us,—important that we shall be realizing at the earliest day, the advantages which we shall derive from the use of our entire line,—important to us, that we shall be ready as soon as the other roads constructing above us shall be completed, to receive their business and to pass it along to its destination; with the Rutland, the Sullivan, the Central, the Passumpsic, the Vermont and Canada, and the Ogdensburg roads,—all passing on to completion, and in the business of all of which our road must participate, in a greater or less degree,—we can want no incentive to urge us on our work, and can entertain no distrust, that when the road shall be completed, the amount of busi- which shall be done on it will exceed any expectations which have been entertained by its most sanguine friends.

Thomas M. Edwards, Abel Phelps, S. Hale, B. F. Adams, Thomas Thatcher Hiram Hosmer. E. Murdock, Jr., *Directors.*

Keene, May, 16th, 1848.

HEAVY LOCOMOTIVES.

The London Morning Herald of Sept. 23, gives the following account of several new, and powerful, locomotives, recently put into use on the English railways. It seems that *Mr. Crampton* is taking a prominent place, if not the lead, among the engine builders in England; but it makes one *stagger* almost to think of a locomotive engine of 34 or 35 *tons!* and *six tons* each driving wheel!! Only think of the *growth* of these machines since 1829—from 5 to 35 tons—*only seven fold* in nineteen years!!! At this rate of increase, what will be the character of locomotives *twenty* years hence? We presume *much* lighter than thirty-five tons.

Speed and Power on the Narrow Gauge.—Within the last month, several new and powerful engines have been put upon the London and North Western and Midland railways. The most powerful was placed upon the former line on Saturday last, when we had an opportuity of taking a run with it from Wolverton to Tring, in company with the patentee Mr. Crampton and Mr. Braidwood, the locomotive foreman of the former station. The new engines are five in number, but we have witnessed the working of two of them only: the powerful one built after Mr. Crampton's patent, and another on the long boiler and outside principle, after Mr. Stephenson's patent. The three others are a powerful class of six wheel engines, with a six ft. driving wheel and a somewhat less powerful four wheel locomotive, both built by Bury and Kennedy, of Liverpool, and a 6 feet 6 in. driving wheel, *Jenny Lind*, constructed by Wilson, of Leeds. We do not know either the size of the cylinders or the heating surface of Bury's engines. We believe the four wheel one has about 1,000 ft. of heating surface, and a 16 inch cylinder; and that its weight, in working order, is about 20 tons. Wilson's *Jenny Lind* has we think also a 16 inch cylinder, with 1,000 feet of heating surface. What its weight is we do not know. Mr. Stephenson's new engine has eight wheels, with a 7 ft. driving wheel. The cylinder is 18 inches, and the heating surface 1200 ft. The weight of the engine, in working order, is between 32 and 33 tons. Mr. Crampton's new engine, the *Liverpool*, has eight wheels, with an 8 ft. driving wheel. It has 18 inch cylinders, a 24 in. stroke, and about 2000 ft. of heating surface. Its weight, in working order, is about 34 or 35 tons.

The work of the eight-wheel engine of Stephenson is not superior to the performances of the *Jenny Lind*, 6 ft. driving-wheel engine, with 100 tons, between Derby and Masborough. That class of *Jenny Lind* has only about 800 ft. of heating surface, and a 15 or 16-inch cylinder, and weighs, road worthy, 24 tons. She took 100 tons at an average speed of 42 or 43 miles per hour, up 16ft. per mile. Stephenson's 33-ton engine cannot do better. She has not sufficient steam for her large cylinder, which should be reduced to 16 in.

Mr. Crampton has followed the example of his able friend, Mr. D. Gooch, of the Great Western. He has proportioned his heating surface to his 18 in. cylinder. The *Liverpool* has precisely the amount of heating surface that has been given to the 8 wheel broad-guage engines—viz: 2000 ft., every portion of which is necessary to work the 18 in. cylinder of a passenger engine, at a proper and economical pressure. Mr. Gooch's plan of working the leading and second pair of wheels upon one spring on either side, in order to meet, in the best possible way, any inequalities on the road, has also been adopted by Mr. Crampton. Upon these two pairs of wheels the latter has placed 16 tons, or 4 tons to each wheel; 3 tons are given to each of the third pair of wheels, and 6 tons to each of the trailing, which, in Mr. Crampton's engines, are the driving wheels; and as the axle of the leading wheel is placed close up against the smoke box, and the axle of the driving wheel is behind the fire box, there is practically no driving wheel fulcrum in the centre, or overhanging weight at either end, to produce or promote oscillation. The only disputable point on the question of oscillation is, whether the outside cylinder does not necessarily, as some engineers think, occasion it. As far as we have been able to judge, from a careful personal examination of the brasses and working of the *London*, one of the class of outside cylinders of which we are speaking (Crampton's), oscillation does not necessarily attach to the working of all outside cylinder locomotives. We have at all times found the *London* steady. Shortly after she was put upon the London and North-Western line she was steady at 62 miles an hour, and we found her steady at the highest velocity she reached (57 miles per hour), after she had been running some 20,000 miles.

The *Liverpool* is also extremely steady, and works beautifully. In saying this, we must in justice to the manufacturer say, that we never saw a better made engine turned out of any locomotive shop in England. In the trip that was made with the *Liverpool* on Saturday, a high rate of speed was not attempted. The run was with the tender only, to see how she worked. At 40 miles an hour, the maximum velocity, the motion on the portion of the framing abreast of the leading-wheel was perfectly free from oscillation.

What speed the *Liverpool* can attain and maintain with 100 tons, we shall not venture to predict, but we are quite sure that she will far surpass anything that has yet been done upon the narrow guage. Her extreme height from the rails is 7ft. 8 in. only, and with longitudinal sleepers, and carriages with longer bearings and larger wheels than adopted on the London and North-Western railway, the *Liverpool* ought to take a train of 16 carriages from London to Birmingham in 2 hours and 10 minutes, including two stoppages; and with the present carriages and cross sleepers, she should, and might safely, take such a train from Euston-square, up the inclines, to Tring—namely 31¾ miles in 35 or 36 minutes, or down the inclines,

from Tring to Euston-square, in 32 or 33 minutes.

The same paper of this morning, (Sept. 23d), says:—"We had a trip yesterday, to Birmingham and back, with the new and powerful engine, the *Liverpool*, which has the same sized driving-wheel, the same sized cylinder, the same length of stroke, and the same amount of heating surface that have been given to the most recently-constructed passenger locomotives upon the broad guage. The *Liverpool* was, when running with the tender, perfectly steady at 60 miles an hour. The engine is not yet in perfect working order; but she will be so in a few days, and we shall then give an accurate and detailed report of her speed and power, upon which many important and debateable railway questions are considered to depend."

Branch Railway Traffic and Light Engines.

We have before alluded to the plan of Mr. Adams for working branch lines with less weight of machinery. The following paragraph shows that it is to be tested by the Eastern Counties railway. The editor of the Chronicle says that,

"Among the many plans which these pinching times of poverty have suggested for the retrenchment and economy of working expenses, one of the most curious and important seems to be the LILLIPUTIAN SYSTEM of Mr. SAMUELS and Mr. ADAMS, now about to be fairly tried in working the branch traffic on part of the Eastern Counties and of the Bristol and Exeter. To diminish the unprofitable weight of a train to the utmost, and to increase the tractive power of that weight, are the objects of this invention. They propose to form a single large carriage, like those at present made by Mr. Adams for the North Woolwich branch of the Eastern Counties, capable of carrying sixty passengers, and to carry on the front of it a small locomotive engine. The tender will form part of the carriage. Of course the weight of the whole is to be placed extremely low. There will also be a small additional carriage, so as to take on the whole 100 or 120 passengers, with engine and tender. The weight of engine and carriage will not exceed some 12 to 15 tons, and, with passengers, will weigh perhaps 20 tons. We have seen one of these lilliputian trains in process of construction at the works of the Eastern Counties railway, and in the workshops of Messrs. Adams & Co. The wheels are so placed as to throw a great part of the weight of passengers on the driving-wheels. By this means they will receive additional adhesion, with additional load. The design seems ingenious, and the workmanship good, The experiment on the whole is promising. and highly interesting. The advantage of working small or branch traffic in this way will be its economy. The light weight of engine and train will diminish wear and tear, as well as coke and other working expenses. At present these are so high as to render branches in many cases unprofitable. It is proposed also to run light expresses in this manner. Any plan that proposes important economy does in these pinching times of poverty, demand immediate attention from railway companies; and we shall therefore watch the progress of these experiments with interest."

The Miner's Safety Lanthorn.

We find the following remarks in the London Mining Journal in relation to a safety lanthorn for miners, etc.; as it may be useful to some of our readers in the mining districts, we give it a place.

In the *Mining Journal* of July 22d, we gave a full description, with diagram, of a safety lanthorn for miners, the invention of Mr. Crane, of Birmingham. We have since received two of these lanthorns, which may be inspected at our office by any persons interested in their use, and we think they will be found a great acquisition to the working collier, and be preventive of many accidents, when brought into general use; Mr. Crane is also manufacturing an oil safety-lamp, on an improved and somewhat similar principle. He states, in a communication, that an accident has lately happened at the colliery of Messrs. Jones and Oakes, solely through the doggy carrying a naked candle; and, had the system recommended by him been adopted no such accident would have happened; but as long as miners are suffered to work by open candles, so long will there be danger of explosions, as inflamable air may escape from blowers into the mine at a moment's notice, and this danger can only be avoided, by insisting, either by the authority of the owners, or, what is better, by act of Parliament, that no collier be allowed to work with any other than a safety insulated light—either a lanthorn or a lamp. Now, the working colliers had an equal objection to the old "steel mill" as to the safety-lamp—consequently, the latter is now in most cases used only to examine the state of the air in the mine, while the miners go to work with naked candles. The objection cannot be urged against these lanthorns, as they give an equal light to an open candle; and the inventor trusts the time is not far distant when they will generally be used to work by. He recommends that when they are in use, every man's lamp, or lanthorn, should be kept locked, so that when his light was nearly out, he would have to apply to the overseer of the lights for a fresh one, whose duty it would be to light it, place, and lock it in his lanthorn, and such overseer to be held responsible for any man being without a safety-light, and if such measures were adopted, explosions could never occur. Mr. Crane states, that he finds considerable prejudice to exist against his system, because of a trifling additional expense: it is, however, attracting attention in some quarters, which gives him reason to hope it will eventually triumph.—It would be to the ultimate interest of the masters, as well as the men, that explosions should be prevented; and as Mr. Crane is propounding no new theory, but it being well known that wire gauze when in repair is a perfect safeguard from the penetratration of gas to the flame, we should be happy to hear of its introduction into one colliery, as then, we think it would very soon become general.

Buffalo and Niagara Falls Railroad.

In compliance with the resolution of the honorable the assembly, passed Feb. 2, 1843, the Buffalo and Niagara Falls railroad company would respectfully submit the following report:

Length of road in operation, 22 miles.

Cost of construction to Jan. 1, 1848	$171,675	11
Expenses for running and repairing road	18,879	32
Total expenses for construction, repairing and running road	190,554	43
Receipts from passengers	43,726	42
Extra baggage, furniture, etc	3,115	93
Mail earnings	800	00
Amonnt paid for dividends	15,879	59
Number of through passengers	662	94
" way "	122	12
Number of locomotives		4
" passenger cars of 8 wheels.		3
" " 4 wheels.		10
" freight and baggage cars		7
" machine shops		1
" horses		3
Average number of men employed on road		25
Number of miles run by locomotives		26,596

W. A. BIRD, Treasurer.

Gas from Water.

The editor of the London Mining Journal of Sept. 2d, says that, he listened with much pleasure to a lecture upon this subject.

We were much pleased with a descriptive lecture, at the Polytechnic Institution, accompanied by a working model of a new hydrocarbon gas apparatus, patented by Mr. Stephen White, for the manufacture of gas from water and common tar, or resin, &c. The invention appears to be a very valuable one, and was ably explained in its various points by Dr. Ryan, the able coadjutor of Mr. Isham Baggs at this institution. The apparatus consists of three retorts placed in a stove, two of which are filled with charcoal and thin pieces of iron, and the other with iron chains hanging from a centre bar. The two first retorts are for the decomposition of water, which is regularly supplied by means of a syphon-pipe, passing through and into the centre of the retort; the water in passing through the heated material, becomes converted unto pure hydrogen and peroxide of carbon. It then passes into the third retort, to receive its dose of bi-carburet of hydrogen, which is prepared from common tar, resin, or similar substances, passing, or dropping, on the red-hot chain, from syphon tube which regulates its supply. This causes the tar, or melted resin, to throw off an abundance of bi-carburet of hydrogen gas. The gasses being mixed in this manner, are immediately conveyed into the gasometer for use, without any purifying vessels whatever, none being required. The great advantages arising from this invention appear to be, the small, simple, and cheap apparatus required, and the beautiful, clear, and bright light produced, surpassing the ordinary coal gas: also its perfect purity, being free from any nuisance in its manufacture, and, above all, so pure and innoxious, that it may be burnt in any private room, without the least ill effects or smoke resulting from it. The apparatus may be used, and the gas made in any private mansions, churches, or manufactories, and on any scale, from 5 to 1000 lights or more, as well as for cities and towns. As a sanitary measure it cannot be too highly appreciated,

when we consider the thousands who inhale the poisonous fumes, consisting of sulphuric acid, sulphurus acid gas, amonia, &c., given off by the ordinary coal gas, not only affecting the health of a mass of individuals, but injuring the goods of jewellers, silversmiths, and drapers, books, prints, pictures, furniture, and a variety of other articles. This gas has been made and supplied at a price considerably less than that of coal gas. Thus we see accomplished the foretelling of that eminent chemiat and philosopher, the late Sir Humphrey Davy, "that at some future time gas would be generated from water for general purposes, surpassing coal gas in brilliancy and purity."

Saratoga and Schenectady Railroad.

In conformity with a resolution of the assembly, passed February 2, 1843, the Saratoga and Schenectady railroad company make their annual report, as foilows:

The Saratoga and Schenectady railroad, extending from the village of Saratoga Springs to the city of Schenectady, is 22 miles long.

The cost of construction is $300.000 00

The receipts of the company from January 1st, 1847, to December 31, 1848, both days included, are

24,750½ through passengers	$22,227 16
28,727½ way "	14,273 95
From freight	5,602 32
mail and other sources	1,693 30
The expenditures of the company for the same period, for repairing and running road	$20,288 72
Number of locomotives	3
" passenger cars	4
" freight cars	6
Machine shop	1
Average number of men employed	30
Number of miles run by passenger trains	23,628

L. R. Sargent, Supt.

ATMOSPHERIC RAILWAY.

The editor of the London Mining Journal, of 9th September has the following notice of Cunningham and Carter's system of atmospheric propulsion on railways.

"It is much to be regretted that, from bad mechanical management in the only plan yet tried on a working scale, the adoption of a system of railway propulsion by atmospheric pressure, has received another severe shock in the proposed abandonment of the principle on the South Devon line, and its supersedence by the locomotive engine. Notwithstanding these untoward events, we believe the time is fast approaching when a rallying point will be found, and the practical part of the subject will be received with much more favor by the public than ever. We have always most distinctly stated our decided objections, founded on scientific information, and close observation, to the longitudinal valve, convinced that it could never be made to act with certainty and regularity, and was totally unfit for a line of greater length than a mile or two; this opinion has been fully borne out by the results on the Croydon and the South Devon lines. Of the principle adopted by Messrs. Cunningham and Carter we have always spoken highly favorable; the entire absence of leakage, not an atom more vacuum destroyed than there is corresponding power obtained, and the delicacy with which the regulation of that power can be carried on, renders this principle, in our humble opinion, one of certainty, economic action, speed and safety, when carried into practice. After many months delay, we are now happy to inform our readers, that the proprietors have succeeded in obtaining a very eligible situation, most centrally situated in the metropolis for the exhibition of two large models—one in a direct line, 160 feet long; and the other in a circle, 15 feet in diameter—each having a double line of rails, on which trains will uninterruptedly run in both directions; showing the power and capabilities of the system, the facility with which the trains are backed, and the speed regulated, performing every movement which can be effected by the locomotive, but under far greater control. The working of these models will convince the public of the superiority of this over the valve system, and which we trust will lead to its introduction on some branch line, for proof of its capabilities on a still larger scale. We fully expect it will be in operation by Monday week, after which we shall again return to the subject."

Railway Villages.

This admirable plan for the comfort and improvement of the poor and industrious population of large cities and villages is likely to be carried into operation, as we see by the Railway Chronicle, which says:

"We hear with pleasure that the suburban village association—which, as our readers may be aware, has for its purpose the building of villages suitable for the residences of persons of limited income near railway stations—will, ere long, make use of the South Western line. The whole of the neighborhood of the branch down to Staines is eligible for the views of the society, and the weekly increase of the short passenger traffic there especially shows this."

Wrought Iron Railway Bridges.

We are not alone, it seems, in the adoption of wrought iron bridges for railways—though we may think we are quite as far advanced in their use as our neighbors—except in *tubular* bridges. The following describes a bridge of 120 feet span:

"One of the new wrought iron bowstring bridges constructed for the Blackwall extension line has been tested at the works of Fox, Henderson & Co., at Smithwick, near Birmingham, in the presence of Mr. Muntz, M.P., Capt. Simmons, and other railway officers. The bridge, as erected on an open space near the London works, presented a clear space of 120 feet between the bearings. It is constructed entirely of wrought iron, and consists of an arch of boiler plates and angle iron tied across at the ends by horizontal bars, the tie being cemented with the arch by vertical standards and by a double system of diagonals, which have the effect of distributing over the whole curve of the arch the action of weights placed on or passing over any portion of the bridge. The ribs are adapted for large spans in cases where either headway is of importance, or where sufficient abutment cannot be obtained without a great outlay.—The ribs are supported in such a manner as to allow not only for expansion and contraction, but also for motion under heavy weight. On this occasion the bridge was loaded with 240 tons of rails and bars, double the load which the bridge can, under any circumstances, be required to bear. The trial gave satisfaction to all concerned."

This will do very well to begin with, but the Messrs. Rider, of New York, have constructed several bridges of wrought iron, exceeding 150 ft. span, for locomotives; and one, if we recollect correctly, of over 200 feet span for a road, or street bridge, to be erected at Buffalo, in the State of New York.—Iron bridges for railroads will soon become quite common in this country, as they will be more durble and safer, and therefore cheaper in the end

We shall give a more full description, with an illustration, at an early day.

Accidents on Railways.

The following analysis of the official returns in England for the last half year shows a large increase of passengers, over last year, which was about 47,000,000, for the year, with a loss of life to *passengers* from accident of *eleven*, and *injury* to sixty-two, out of 26,330,492 carried—or *one* death to passengers in 2,390,000. The loss of life to those employed upon, and trespassing on, the railways was 79.

"*Official Returns Relative to Railway Accidents.*—By an analysis of the returns made to the commissioners of railways, it appears that of the 90 persons killed and 99 injured on all the railways open for public traffic in Great Britain and Ireland, during the half year ending the 30th June, 1848, there were—6 passengers killed, and 60 injured from causes beyond their own conduct; 5 passengers killed, and 3 injured, owing to their own misconduct or want of caution; 7 servants of companies or contractors killed, and 14 injured, from causes beyond their own control; 52 servants of companies or of contractors killed, and 18 injured, owing to their own misconduct or want of caution; 18 trespassers and other persons, neither passengers nor servants, killed, and 5 injured, by improperly crossing or standing on the railway; 1 person run over and killed at a crossing through misconduct of an engine driver; 1 suicide—total, 90 killed, and 99 injured; and for the same period the number of passengers was 26,330,492."—*London Min. Jour.*

NEW YORK & PHILADELPHIA.



NEW JERSEY RAILROAD & TRANSPORTATION CO.—



6 o'clock, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11¼ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

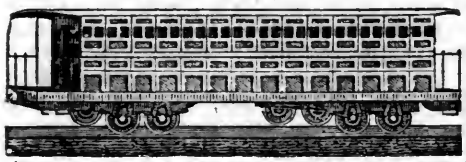
RAILROAD IRON.

THE NEW JERSEY RAILROAD & TRANSPORTATION CO. have for sale from 450 to 500 tons of Iron Rails, weighing from 35 to 37 lbs. per yard, of the T pattern, recently taken up from their road to give place to a heavier rail, together with Chairs and Spikes to correspond, which they will sell cheap for cash; the rails have been straightened and prepared for re-laying, and are now ready for delivery on the dock at Jersey City. Apply at

57 Merchants Exchange,
August 23, 1848.—3t* New York.

CAR MANUFACTORY,

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.
Cincinnati, Ohio, October 2, 1848. 41tf

TO CONTRACTORS.

BURLINGTON AND MOUNT HOLLY RAILROAD.—Sealed proposals will be received by the subscriber until the evening of the 13th of November next, for the Grading, Bridging, and Masonry of the Burlington and Mount Holly Railroad, about seven miles in length.

Plans, profiles, etc., may be seen, and all necessary information obtained of H. L. Southard, at the Engineer's office, in Burlington, after the 10th of November.

The company reserve the right of rejecting all bids deemed incompatible with their interests.

ROBERT S. VAN RENSSELAER.
Burlington, October 39, 1848. 2t45

RAILROAD IRON.

THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to

COOPER & HEWITT, Agents,
17 Burling Slip, New York.
October 30th, 1848.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS, } SPRINGFIELD, MASS.
1y48

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.
New York, Sept. 16. 1848, 39tf
Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The ridiculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.
September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS FOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
v25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtis & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON—SHEET IRON—BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

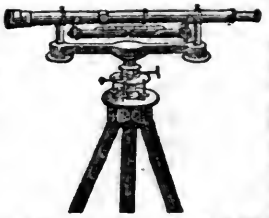
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

RAILROAD IRON.

THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.
New York, October 25, 1848. tf

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 1tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

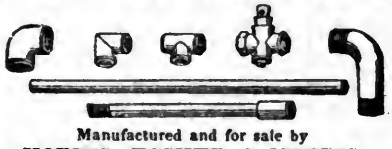
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 8 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

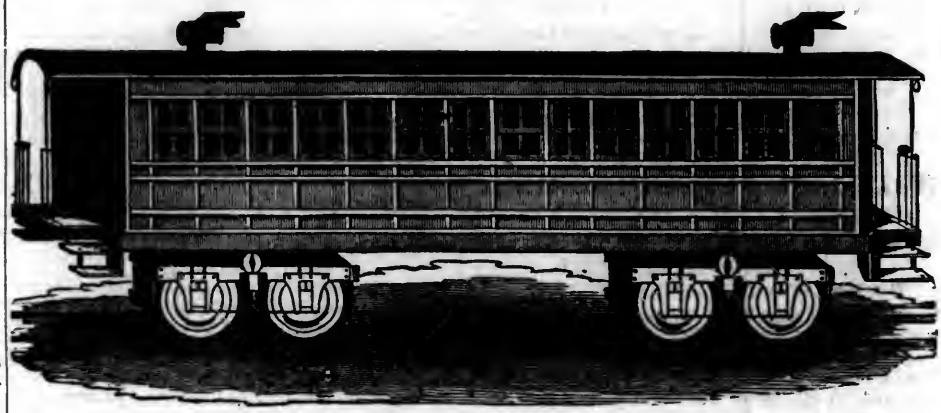
LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

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DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No 79 Water St., New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrotie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

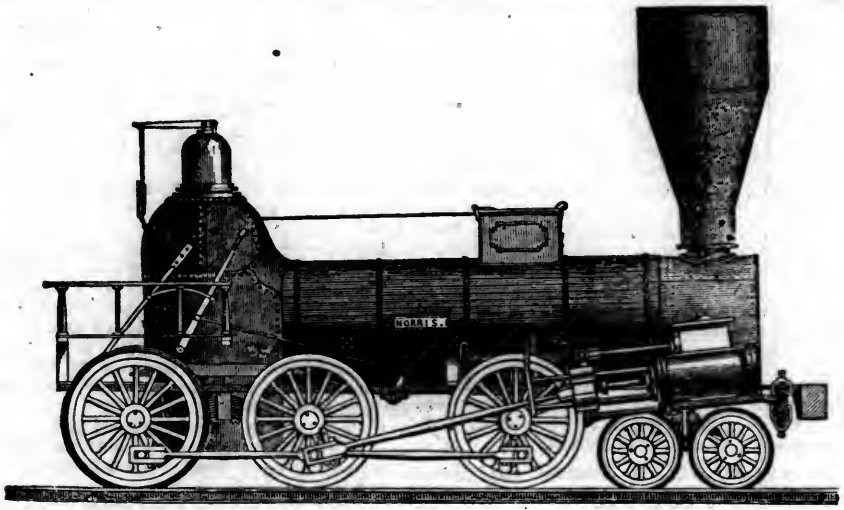
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

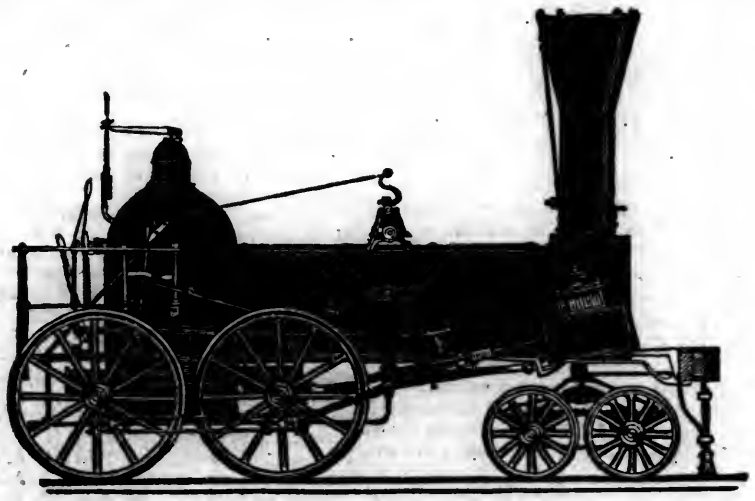
Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25,1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7¼ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44tf1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery.....	40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pitsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the Trains will run as follows:

Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and Intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will proceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo...	5½ A.M.	12 M.	6 P.M.
Going east.		**1st train**	**2d train.**	**3d train.**
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

BOSTON AND MAINE RAILROAD.

Winter Arrangement.

Commencing Nov. 13, 1848.

Trains leave Boston as follows, viz: For Portland at 7 A.M. and 2½ P.M.

Great Falls at 7 a.m., 2½ and 3½ p.m.

Haverhill at 7 and 11½ a.m., 2½, 3½ and 5 p.m.

Lawrence, at 7, 9, 11½ a.m., 2½, 3½, 5, 6 p.m.

Reading 7, 9 & 11½ a.m., 2½, 3½, 5, 6, 7½ & 10 p.m

Trains leave for Boston as follows, viz: From Portland at 7½ a.m., and 3 p.m.

Great Falls at 6½ and 9½ a.m., and 4½ p.m.

Haverhill at 7, 8½ and 11 a.m., 3 and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6½, 7, 7½, 9½, 11½ a.m., 1½, 3½, 7½, 9, p.m.

MEDFORD BRANCH TRAINS.

From Medford at 6½, 8, 10½, a.m., 2, 4, 6, 9 p.m.

From Boston at 7½, 9½ a. m., 12½ 2½, 5½, 6½, 10 p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, Nov. 7, 1848.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6¼ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12¼ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5¼ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7¼ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5¼ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NORWICH AND WORCESTER RAILROAD. Summer Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 5 p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

125 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

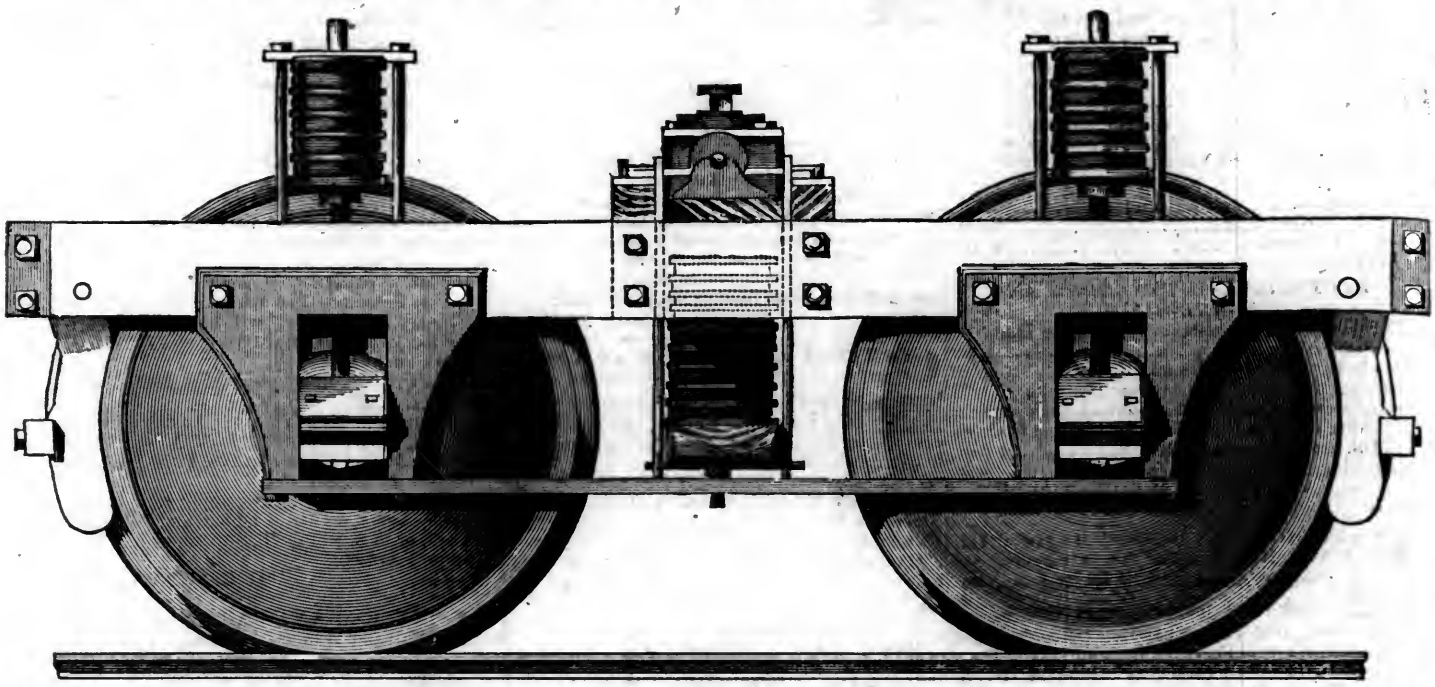
Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for oaggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

VULCANIZED INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation on its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, November, 18, 1848.

For the American Railroad Journal.

Railroads in Maine.

The principle of the railway, or the use of a hard surface, upon a level, or an easy incline, for the better moving of heavy bodies, must be as ancient as the pyramids. In constructing the Roman roads, such an Afpian way, theas application of the same principle was extolled, and the use of wooden railways has been known in England for some two hundred years.

The use of a different surface for the running of the wheels of a carriage, from the ordinary roadbed, was the first great discovery in railway science, but the railway system of the present day must be regarded as having its date at the time that steam locomotive power was fully established on the Liverpool and Manchester railway.

The Quincy railroad in Massachusetts, constructed in 1827, was built with a view to the use of horse power only, as was also the Baltimore and Ohio railroad, which was commenced as early as 1828.—While the Liverpool and Manchester railway was in progress, the directors instituted an inquiry into the comparative advantages of horse power and stationary and locomotive steam power. Geo. Stephenson produced the locomotive engine "ROCKET," which, in 1829, performed according to the stipulations or requirements proposed, and the question was forever put at rest. At the opening of the Liverpool and Manchester railway, September 16, 1830, the rocket accomplished a speed of 29 miles per hour. From this period we may date the RAILWAY SYSTEM.

Though the railway system may be regarded as still in its infancy, it must be considered as the greatest instrument of civilization which the world has ever known—not excepting even the arts of printing or the mariner's compass.

The progress of railway improvements, and their influence in increasing wealth, extending knowledge and enlarging the capacities of man, will hereafter form subjects of the gravest inquiry. Enough has been already shown to place the railway at the head of all practical sciences, and to entitle it to the profoundest regards of the political economist and the statesman. In England it has become one of the first, if not already the very greatest interest of the kingdom; and in some parts of New England it is second only to agriculture in the value of the property invested.

The indirect influence of the railway is of far greater value than the mere estimate of its cost.—Everything must be multiplied, not in simple ratio, but in geometric progression; and man himself is not only endowed with new capacities and faculties, through the agency of the railroad, but all these infinitely augmented and quickened.

Hence where the railway is known, it takes immediate hold of production in all its forms, at once leads to its own extension, till it eventually reaches all parts of the country; and those communities who are still without its influence, are compelled to witness a gradual withdrawal of its population and its property to those regions where this great blessing is enjoyed, or to embark at once in its construction.

Maine, notwithstanding the fact that she has greater natural advantages than any State in the Union, and is destined in the course of a quarter of a century to become the great ship owning and the great manufacturing State of the confederacy, has done but little towards the extension of railroads. The great advantages of her geographical position have been neglected or lost sight of by the circumstances of her political position. A frontier State, she has been cut off from all social or commercial intercourse on three sides, and held in commercial subjection to the State of Massachusetts on the other.

The early subjugation of Maine to Massachusetts placed her in a position of colonial dependence, which was perpetuated by the force of circumstances long after its nominal separation took place.

Extending along a line of sea coast, indented with numerous harbors, intersected by numerous navigable rivers, running in almost parallel lines to the sea, Maine is so divided so to have no national commercial centre, or capital. Boston has been resorted to from over eighty distant ports, or places of shipment as the commercial mart of Maine.

The policy of Boston has naturally led to the adoption of measures calculated to retain the trade of Maine by way of the sea. Her policy has been to create every possible facility for direct intercourse with Boson by water, and thereby prevent any concentration of business or capital at any one point at home.

The superiority of Boston over any town in Maine has enabled her to control not only the course of trade but the opinions of her people. This has been most fatal to her actual advancement. Weakened by a commercial separation from each other, all parts of Maine have been naturally led to look to Boston, not only for aid in all important local enterprises, but also for opinions Hence the disposition to underrate our own ability, and undervalue our own advantages.

Massachusetts extended her three great roads to Lowell, to Providence and to Worcester, in 1835.—Prior to that date emigration had set strongly into Maine from Massachusetts; but from that date the tide gradually turned—owing to the new demand for labor and other causes growing entirely out of her railway system. For more than *ten years* a steady drain upon the population of Maine was made by Massachusetts. Her history, since 1835, is the most splendid commentary upon the railway system that could be written.

A feeling of dependence naturally begets a feeling of jealousy, and in 1836 commenced in Maine a policy hostile to manufacturing industry, and to railroads. A road from Bangor to Oldtown, and another from Portland to Portsmouth, was constructed by Boston capital; but both unfortunate in being located in such a manner as to be objects of dislike to the people upon the line of each. This circumstance, with other of lesser importance, made railroads unpopular in Maine. Legislative restrictions were constantly interposed, and the anti-railroad party was regarded as clearly in the ascendant.

This state of things continned till 1844, when the public mind was directed to the plan of a railroad to Montreal. Prior to this time, for seven years, the only applications for railroad charters, and the only measures taken for their extension, were with a view to Boston assistance. The feeling at that time had become general, if not universal, in Boston, that railroads could not be built in Maine without the aid of Boston capital, and in this feeling many in Maine participated.

When the plan of connecting Portland and Mon-

treal by railroad was proposed in Canada, a manifesto, or declaration in writing, was sent to Montreal by the leading capitalists and merchants of Boston, to the same effect as the opinions before stated, and efforts have not been wanting since to impress the same idea more fully upon the minds of the Canadians.

The idea came very near proving fatal to the enterprise in Maine—but fortunately for all parties, it seemed gradually to impress more strongly the mind of the people of Maine with the necessity of asserting their independence, and embarking upon a system of railroads of their own.

The consequence has been, that no portion of the country is more deeply alive to the importance of railways, or more actively or efficiently engaged in their construction. And certainly no State in the Union is likely to derive more eminent advantages from their completion.

The great work in the Maine system of railways is the Atlantic and St. Lawrence railroad, now extending rapidly toward the boundary of Canada, thence to connect with the St. Lawrence and Atlantic railroad, to be extended from Montreal to the same point, the two forming, in a distance of 275 miles, the Portland and Montreal railway. *Thirty-seven* miles at the Portland end, and *thirty* at the Montreal end, will be in operation the present fall, and further extended the ensuing year. Connecting with the Atlantic and St. Lawrence railroad, 27 miles from Portland, commences the line extending to Lewiston and Waterville, a distance of 54 miles, one-half of which distance will be in operation the present, and the balance in the ensuing, year. A charter, extending the line from Waterville to Bangor, is already granted, a distance of 54 miles, which will make the distance from Portland to Bangor by railway, 135 miles.

A road is also being extended from Portland to Augusta, and to Bath, commencing at North Yarmouth, on the line of the Atlantic and St. Lawrence railroad, 12 miles from Portland.

Thirty-seven miles from Portland, on the line of the Atlantic and St. Lawrence railroad, commences the Buckfield railroad, which is now under contract and will be in operation to Buckfield, 13 miles, the ensuing year.

The York and Cumberland railroad, extending through Westbrooke and Gorham, is under contract, and to be put in operation as far as Gorham the ensuing year also.

Without speaking at present of other enterprises, not less important, though in a state of less forwardness, no one who will examine the map of Maine, can fail to be struck with the extraordinary advantages which the State of Maine, and the city of Portland in particular, is to derive from the completion of these works. They must place Portland at once among the important commercial cities of the Atlantic coast, with every assurance of successful business and rapid growth. The inexhaustible water power in convenient proximity to the lines of road, extending in different directions, and the fine agricultural districts in the valleys of the Androscoggin and Kennebec, which will be at once put upon greater production will offer inducements to the employment of capital and labor beyond any portion of N. England.

To the State of Maine, and to Portland especially, the speedy completion of these great *trunk lines* is a matter of the deepest concern. Without aid from Boston, and in spite of her opposition, these works have been undertaken, and thus far successfully prosecuted. The means to complete the whole line to Waterville, and *one hundred miles* from Portland in the direction of Montreal, are already at command. To raise the balance requires at this time an effort worthy of the enterprise of her people.

The mode of doing this, and its consequences upon the prosperity of Maine, require further consideration in a future number. J. A. P.

November 11, 1848.

Schenectady and Troy Railroad.

In compliance with the resolution of the honorable the assembly, passed Feb. 2, 1843, the Schenectady and Troy railroad company would respectfully submit the following report:

Length of road in operation, 20¼ miles.

Cost of construction to Jan. 1, 1847	$643,547 56
Expended on construction in 1847	14,818 54
The receipts of the road from January 1, 1847, to December 31, 1847, both ways included, are:	
From passengers, 63,468 through	$31,779 61
" 5,410 way	1,454 12
Freight	12,319 00
From mail and all other sources	570 00
The expenditures of the company for the same period, for repairing and running road	$38,337 14
Number of locomotives	3
" passenger cars	7
" freight cars, 8 wheel	20
" " 4 wheel	18
" other cars	24
Miles run by passenger trains	51,185
" freight trains	3,321
Dividends	none.
Average number of men employed per day for the year	98

W. E. Hall. Treasurer.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 7th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Nov. 7.	2,974 10	105,092 03
By Room Run "	2,818 05	111,822 05
By Hazleton	1,832 00	81,515 00
By Beaver Meadow	2,033 04	77,847 13
By Buck Mountain	1,625 19	67,210 10
By Spring Mountain	1,520 03	58,376 00
By Cranberry Mines	950 00	14,655 00
White Haven	255 08	9,627 14
Diamond Co	311 18	5,284 09
Total	14,321 07	631,430 16

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 9th inst., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	5,958 10
" Pottsville	3,807 11
" Port Carbon	6,809 14
" Port Clinton	2,262 04
Total this week	18,837 19
Total this year	1,096,667 15

The amount of coal brought to market by the Schuylkill canal during the week ending the 9th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	7,458 09
" Schuylkill Haven	3,542 00
" Port Clinton	307 10
Total this week	11,317 19
Total this year	397,590 07

Recapitulation.—Total Shipments this Season.

By Lehigh companies	631,430 16
By Reading railroad	1,096,667 15
By Schuylkill canal	397,590 07
Total	2,125,688 18

Depreciation of Railway Property in England.

The annexed paragraph from the London Mining Journal shows a sad depreciation of railway property in England. We cannot believe that there are any just grounds for it. The shares ought, with perhaps one exception, to command *par*—to a high premium, as will be seen by *another* table from the Chronicle of 2d September, which we give herewith. Capitalists in England are usually satisfied when money brings 4½ to 5 per cent. per annum, on *sure* investments, and therefore they ought not to be alarmed at a *temporary* depression from 5, 7, 8, and 10 per cent., to 4, 5, 6, and 8 per cent.

"The following table shows the fall in the market value of shares in the principal railways since the first week in Sept., 1847:

	1847.	1848.	Fall.
Eastern Counties	£18¼	£13¼	£5¼
Great Western*	105	89	16
London, Brighton, and S. Coast	49¼	27¼	20¼
London and North Western	165	111	54
London and South Western	60	37¼	22¼
Midland	116¼	86¼	29¼
Norfolk	104	59	45
South Eastern	33¼	24¼	9¼
York, Newcastle and Berwick	34¼	28	6¼
York and North Midland	78	58	20

* A call of £5 per share having been paid since September, 1847, makes this fall equal to £21."

Railway Dividends in England.

"The Weekly Share List," says the Chronicle, "gives the following tabular statement of the rates of dividend paid during the last four half years by ten of the principal railways:

Dividends per cent. per annum.

	1846. 2d half.	1847. 1st.	1847. 2d.	1848. 1st.
Eastern Counties	6¼	5	4	4
Great Western	8	8	7	7
Glasgow and Ayr	7	7	6	4
London and North Western	10	9	8	7
London and South Western	9¼	9	8	6
Brighton	7	4	4	2½
Midland	7	7	7	6
South Eastern	6·34	6·34	6·34	6·34
York and North Midland	10	10	10	8
York, Newcastle & Berwick	9	9	9	8

The south Eastern is therefore the only company which has maintained the same rate of dividend for the past four half years; and the Eastern Counties and Great Western the only two which have paid the same dividend for the 1st half of 1848 as for the 2d half of 1847. A reduction of 1 or 2 per cent. has been made by all the others for the past half-year; and by some it will be seen that during the two years referred to, there have been reductions amounting to 3, 4, and even 4½ per cent."

This of course means rates *per annum*.

French Railways and the Government.

We could hardly believe that the proposition of the government, of the late revolution in France, would be carried out, and that the *railways* constructed by private capital, and mostly, too, by *foreign* capital, would be taken as the property of the State, without the consent—or even *consulting*—the shareholders. There *may be reasons* operating for this despotic measure, which we do not understand; but the course pursued by the government is evidence to us that, no matter what may be the name, or title of the government, by which such violations of private rights are perpetrated, it is at best but an odious *despotism*, and shows that the *people* who submit to it are not sufficiently intelligent to establish and sustain a free, or democratic, form of governing themselves. They need, and *are sure to have, a master*, who will *rule* them as "with a rod of iron."

These remarks are elicited by reading the following extract from the proceedings of a portion of the

English shareholders in the Paris and Lyons railway, held in London August 23d.

"Sir I. L. Goldsmid in the chair.—Mr. C. Devaux one of the directors, had addressed a circular to the English shareholders, stating that the national assembly of France has passed a law to the following effect, viz:—That the Paris and Lyon shall become the property of the State. The holder of shares of 205f. (£10) paid up will, for each share, receive a certificate of French stock bearing interest of 7f. 60c. per annum. They will also have the option of paying up 250f. (£10) per share more, and in that case would receive 25f. per annum, instead of 7f. 60c. per annum, interest, commencing 22d of March last.—Notice of accepting such option must be given to the French government before the 1st of Sept. next. The 250f. already paid will form a guarantee deposit, which will decrease in proportion as the future instalments are made. The 250f. remaining to be called up will have to be paid as follows: 50f. on the 5th October, 1848; 50f. on 5th of January, 1849; 50f. on 5th April, 1849; 50f. on 5th July, 1849; 50f. on 5th October, 1849—together 250f. On each of these payments being made, the holder of the certificates above referred to will receive an inscription of rentes for 5f. The steps to be taken for the execution of the present decree, especially as regards those shareholders who shall not have paid up the instalments at the times stated, will be determined upon by the minister of finance. The shareholders who have paid up 275f. per share are to receive back from the company 25f. per share."

This does not look much like a government of the people, respecting private rights and private property.

Forgetfulness of Mankind,

Or Reasonable Accommodation in Railway Coaches.

The following remarks in relation to the *unreasonable* demands upon railway companies, which we find in the Railway Chronicle of 16th September, are very just as far as they go, but not quite severe enough to penetrate the thick hide of selfishness which we often witness when travelling on railways. It is not uncommon to hear people find fault with accidental, or necessary, delays of *five minutes*, and with being put in cars not equal to some parlors—though oftentimes better than those, who complain, have at home—when travelling on railroads, which have never yet paid a dividend, or but inadequate returns, if any, for the outlay. This species of fault finding is only justifiable, in our opinion, on lines that control large traffic, earn large returns upon the capital invested, yet neglect to afford just accommodations and facilities to those who are compelled to employ them at high prices.

It is not a just comparison to say that we ought to be satisfied now with $1 and *five* hours, or $3 and *six* hours—because *twenty years ago* it cost $5 and *twelve hours*, between New York and Philadelphia—while we can travel on other roads, costing as much or more outlay, a *greater distance* for *half* the amount and in less time. Nor that because *twenty* or *thirty dollars* a ton was *exacted*, in 1815 or 1820, for merchandise that *ten* or *twenty* dollars should be now paid to a monopoly when the same service can be done in another direction, by competition, *twice and a half the distance* for *five* dollars.

In the case referred to by the editor of the Chronicle we *fully* concur.

"Reasonable" Accommodation in Railway Coaches.—It will perhaps have been noticed, as a coincidence from which sundry conclusions may be drawn, that in the last number of our paper, which contained some editorial reference to various claims made against rail ways on behalf of "the public," there was also noticed the desire of "a correspondent" to have *sleeping and writing accommodation* furnished for travellers in the carriages. The nature and the grounds of the suggestion are both of them significant enough, and prove many things—among which two at least may be noted; the first, that "the public" is as much inclined as ever to regard the conveniences already given by railways as insufficient, and to expect that more shall be given by the owners, however poorly they may now be paid for what is already afforded. The second, that the effect of the comfort bestowed by railway conveyance as it is, has been to obliterate all memory of what travelling was before railways were. Nothing but an oblivion of the past could have allowed any correspondent in his senses to state as a "*suffering*," "the *continuous cramp*, consequent on *a constrained* sitting of *twelve or fourteen hours on a journey from London to Edinburg and Perth.*" To any one who could recollect what time was in the coach journey between these points; what the space allowed in the best coaches for the constrained sitting; what the price paid for the right to such constraint; the comparison between these items and railway dispatch, railway carriage space and the charge for both, would have suggested a rather different strain of remark, after the journey—especially at a time when the business now carried on with such infinite increase of comfort to the traveller is in many cases barely paying the original investor a 3 per cent. dividend on the money spent in affording this advantage.

But there is, it seems, no end to forgetfulness, and no limit to unreasonable expectation. In the very same note it comes out that what we have already been describing is not enough for our correspondent. Not only must railway coaches become dormitories, but they must be fitted up also as offices for commercial and literary men and gentlemen of the press, to whom the convenience of travelling swiftly and cheaply is not sufficient so long as it is possible to conceive that the power of transcribing their lubrications *en route* would be highly advantageous. It is really wearisome to repeat the answer to such unreasonable proposals; and scarcely worth while to do so, from the very circumstance that they are put forward without reason, and are therefore little apt to be silenced by it.

The answer however is, that such arrangements will not pay those who are asked to make them. To establish them for regular use, when wanted, would cause a great deal of expense, and much interfere with the ordinary business; and the public would not regularly make use of them at any charge, which could compensate for these objections. The only practical result of attempting to supply them would very shortly be that travellers in general would either take no advantage of them, or would expect to have them for nothing. This was found years ago in the case of the mails fitted up with the so called bed compartments: and so it will be found in any further attempts of the kind.—The bulk of those who travel *will* travel cheaply: and the very few who may now and then be willing to pay for extra accommodation do not come often enough, nor would they consent to pay enough to meet the charge of providing such extras so as always to be ready when occasionally wanted. It is quite time that it should be clearly understood how this matter now stands; and that new luxuries and conveniences, never dreamed of till now, cannot be expected, in addition to the substantial improvements already made in travelling by railway, at the prices beyond which the majority of railway travellers will not consent to go, and which prices are now far from returning a sufficient profit on all the works by which the travelling public is benefitted.

General Railroad Law of New York.

An Act to Authorise the formation of Railroad Corporations. [*Passed March* 27, 1848.]

The People of the State of New York, Represented in the Senate and Assembly, do Enact as follows:

Section 1. Any number of persons not less than twenty-five being subscribers to the stock of any contemplated railroad, may be formed into a corporation for the purpose of constructing, owning, and maintaining such railroad, by complying with the following requirements: When stock to the amount of at least one thousand dollars for every mile of the road so intended to be built, shall be in good faith subscribed, and ten per cent. paid thereon, as hereinafter required, then the said subscribers may elect directors for the said company; thereupon, they shall severally subscribe articles of association, in which shall be set forth the name of the corporation, the number of years the same is to continue, which shall not exceed fifty years, the amount of the capital stock of the company; which shall be the actual cost of constructing the road, together with the cost for the right of way, motive power and every other appurtenance for the completion and running of said road, as nearly as can be estimated by competent engineers; the number of shares of which the said stock shall consist; the number of directors and their names, to manage the concerns of the company, who shall not be one-half in the numbers of the stockholders, and shall hold their offices until others are elected; the place from and to which the proposed road is to be constructed; and each county into or through which it is intended to pass, and its length as near as may be, and the names of five commissioners to open books of subscription to the stock; each subscriber to such articles of association, shall subscribe thereto his name, place of residence, and the number of shares of stock taken by him in such company. The said articles of association may, on complying with the provisions of the next section, be filed in the office of the secretary of state, and thereupon the persons who have so subscribed, and all persons who shall, from time to time become stockholders in such company, shall be a body corporate, by the name specified in such articles, and shall possess the powers

and privileges, and be subject to the provisions contained in titles three and four, chapter eighteen, of the first part of the revised statues.

Sec. 2. Such articles of association shall not be filed in the office of the secretary of state, until ten per cent. on the amount of the stock subscribed thereto, shall have been actually and in good faith paid in cash, to the directors named in such articles, nor until there is endorsed thereon, or annexed thereto an affidavit made by at least three of the directors named in such articles, that the amount of stock required by the first section has been subscribed, and that ten per cent. on the amount has actually been paid in.

Sec. 3. A copy of any articles of associations filed in pursuance of this act, with a copy of the affidavit aforesaid, endorsed thereon, or annexed thereto. and certified to be a copy by the secretary of this state, or his deputy, shall in all courts and places be presumptive evidence of the incorporation of such company, and of the facts therein stated.

Sec. 4. When the certificate shall have been filed as aforesaid, the persons who shall have signed and acknowledged the same, and their successors, shall be a body politic and corporate, by the name stated in such certificate; and shall be capable of suing and being sued, and may have a common seal, and may make and alter the same at pleasure; and be capable in law of purchasing, holding and conveying any real and personal estate whatever, necessary for the construction of such road, and for the erection of all necessary buildings, yards and appurtenances for the use of the same.

Sec. 5. The commissioners for opening books of subscription, named in the act of incorporation shall from time to time, after the company shall be incorporated, open books of subscription to the capital stock of the company in such places, and after giving such notice as a majority of them shall direct, which books of subscription shall be kept open until all the capital stock shall be subscribed, if the corporation shall so long exist, and in case a greater amount of stock shall be subscribed than the whole capital stock of such company, the commissioners shall distribute such capital stock as equally as possible among the subscribers, but no share thereof shall be divided in making such distribution, nor shall a greater number of shares be allotted to any subscriber than such subscriber shall have subscribed for.

Sec. 6. As soon as practicable after such capital stock shall have been subscribed and distributed as aforesaid, the commissioners to receive subscription thereto shall appoint time and place for the meeting of the stockholders to choose electors. Such meeting shall be held in one of the counties in or through which such railroad is proposed to be constructed; and notice thereof shall be given by said commissioners, by public notice to be published, not less than twenty days previous thereto in the state paper, and a newspaper published in each county through which the said road shall be intended to run; in which a newspaper shall be published. Thirteen directors shall be chosen at such meeting by ballot and by a majority of the votes of the stockholders being citizens of the United States, and being present in person or by proxy; and every such stockholder being so present at such election, or at any subsequent election of directors, shall be entitled to give one vote for every share of stock which he shall have owned for the thirty days next preceding such election; but no stockholder shall vote at any such election upon any stock except such as he shall have owned for such thirty days. No person shall be a director or unless he shall be a stockholder owning stock absolutely and in his own right, and qualified to vote for directors at the election at which he shall be chosen, nor unless he shall be a citizen and resident of this state; and at least seven of the directors shall at the time of their election, be residents of the counties in or through which the route of such railroad shall run. The directors shall be directors for one year, and till others are elected in their places.

Sec. 7. The commissioners named in the last preceding section shall be inspectors of the first election of directors, shall openly count the votes and declare the results, and shall, within ten days hereafter, file a certificate thereof, subscribed by them or a majority of them, in the office of the secretary of state and in the office of the clerk of each county in or through which such railroad shall be proposed to be constructed, and shall also deliver to the treasurer of such company all moneys received by such commissioners on subscription to such capital stock, and all books and papers in their possession relating to such subscriptions. All subsequent elections shall be held at such time and place, in one of these counties through which such railroad shall pass, as shall be directed by the by-laws of the company, and the provisions of the second article of the second title of the eighteenth chapter of the first part of the revised statues shall apply to corporations formed under this act.

Sec. 8. In case it shall happen at any time, that an election of directors shall not be made on the day designated by the by-laws of said company, when it ought to have been made, the company for that reason shall not not be dissolved, if, within ninety days thereafter, they shall hold an election for directors in such manner, as shall be provided for by the said by-laws. There shall be a president of the company, who shall be chosen by and from the directors, and also such subordinate officers as the company by its by-laws may designate, who may be elected or appointed and required to give such security for the faithful performance of the duties of their office as the company by its by-laws may require.

Sec. 9 It shall be lawful for the directors to call in and demand from the stockholders respectively, all sums of money by them subscribed, at such times and in such payments or instalments as the directors shall deem proper, under the penalty of forfeiting the the shares of stock subscribed for, and all previous payments made thereon, if payment shall not be made by the stockholders within sixty days after a personal demand or notice requiring such payment, shall have been published for six successive weeks in a newspaper published in each county through which said road shall be laid out; in which a newspaper shall be published.

Sec. 10. The directors of such company shall have power to make by-laws for the management and disposition of stock, property, and business affairs of such company, not inconsistent with the laws of this state, and prescribing the duties of officers, artificers, and servants that may be employed, for the appointment of all officers for carrying on all the business within the objects and purposes of such company.

Sec 11. The stock of such company shall be deemed personal estate, and shall be transferable in the manner prescribed by the by-laws of the company; but no shares shall be transferable until all previous calls thereon, shall have been fully paid in, or the said shares shall have been declared forfeited for the non-payment of calls thereon. And it shall not be lawful for such company to use any of their funds in the purchase of any stock in their own, or in any other corporation.

Sec. 12. All the stockholders of any such company that shall be hereafter incorporated under this act, shall be severally individually liable to the creditors of such company, to an amount equal to the amount of stock held by them respectively, for all debts and contracts made by such company, until the whole amount of the capital stock fixed and limited by the company in manner aforesaid, shall have been paid in, and a certificate thereof shall have been made and recorded as prescribed in the following section; and shall be jointly and severally liable for all debts that may be due and owing to all their laborers, servants, and apprentices, for services performed for such corporation, but not be liable to an action therefor, before an execution shall be returned unsatisfied in whole or in part against the corporation, and then the amount due on said execution shall be the amount recoverable with costs against said stockholders. The corporation shall require sufficient security from the contractors for the payment for all labor performed in constructing said road by persons in their employ. All railroad companies in this state shall be liable to the day laborers employed by contractors for labor actually performed on their respective roads, but such liability shall not exist, unless the persons having such claim, shall within thirty five days after the performance of such labor, notify the engineer in charge of the section on which the labor was performed, that he or they have not been paid by the coatractors.

Sec. 13. The president and a majority of the directors, within thirty days after the payment of the last instalment of the capital stock so fixed and limited by the company, shall make a certificate stating the amount of the capital so fixed and paid in; which certificate shall be signed by the president and a majority of the directors, and sworn to

by the president and secretary; and they shall, within the said thirty days, file and record the same in the office of the secretary of state.

Sec. 14. If the directors of any such company shall declare and pay any dividend when the company is insolvent, or any dividend, the payment of which would render it insolvent, they shall be jointly and severally liable for all the debts of the company then existing, and for all that shall be hereafter contracted, so long as they shall respectively remain in office.

Provided, That if any of the directors shall be absent at the time of making the dividend, or shall object thereto, and shall within thirty days thereafter, or after his return, if absent, file a certificate of their absence, or objection, in writing, with the clerk of the company, and with the clerk of the county in which the principal office of said company is located, they shall be exempt from the said liability.

Sec. 15. If any certificate or report made, or public notice given by the officers of any such company, in pursuance of the provisions of this act shall be false in any material representation, all the officers who shall have signed the same, shall be jointly and severally liable for all the debts of the company contracted while they are stockholders or officers thereof.

Sec. 16. No person holding stock in any such company, as executor, administrator, guardian, or trustee, and no person holding such stock as collateral security, shall be personally subject to any liability as stockholders of such company: but the person pledging such stock shall be considered as holding the same, and shall be liable as a stockholder accordingly, and the estates and funds in the hands of such executor, administrator, guardian, or trustee, shall be liable in like manner, and to the same extent as the testator or intestate or the ward or persons interested in such trust-fund would have been, if he had been living and competent to act, and held the same stock in his own name.

Sec. 17. Every such executor, administrator, guardian, or trustee, shall represent the share of stock in his hands, at all meetings of the company, and may vote accordingly as a stockholder: and every person who shall pledge his stock as aforesaid, may nevertheless, represent the same at all such meetings, and may vote accordingly as a stockholder.

Sec. 18. Every such company, before proceeding to construct any part of their road in to or through any county named in their certificate of association shall make a map and profile of the route intended to be adopted by such company, which shall be certified by a majority of the directors, and filed in the office of the county clerk of such county for the inspection and examination of all parties interested therein, and shall also deposite five per cent on the capital stock subscribed with the comptroller of this state for the use of said company to be applied in the payment of any awards of the commissioners appointed to ascertain the compensation for lands, real estate, or property taken for said road, and to be paid on order of such commissioners.—

Sec. 19. Every such corporation shall possess the general powers, and be subject to the general liability and restrictions expressed in the third title of the eighteenth chapter of the first part of the revised statues, and also the special powers following, that is to say:

1. To cause such examinations and surveys for the proposed railroad to be made, as may be necessary to the selection of the most advantageous route for the railroad; and for such purpose, by their officers, agents and servants, to enter upon lands or waters of any person, but subject to responsibility for all damages which they shall do thereto.

2. To receive, hold, and take such voluntary grants and donations of real estate and other property as shall be made to it, to aid in the construction, maintenance, and accommodation of such railroad, but the real estate thus received by voluntary grant, shall be held and used for the purpose of such grants only.

3. To purchase, and by voluntary grants and donations receive and take, and by its officers, engineers, and surveyors, and agents enter upon and take possession of and hold and use all such lands and real estate and other property as may be necessary for the construction and maintenance of its railroad and the stations, depots, and other accommodations necessary to accomplish the object for which the corporation is created; but not until the compensation to be made therefor, as agreed upon by the parties, or ascertained as hereinafter prescribed, be paid to the owner or owners thereof, or deposited in court or in bank, as hereinafter directed unless the consent of such owner be given to enter into such possession; but nothing herein contained shall be held as repealing, or in any way affecting the act entitled "An act authorising the construction of railroads upon Indianalands," passed May 12, 1836.

4. To lay out its road not exceeding six rods wide, and to construct the same; and for the purposes of cutting, embankments, and procuring stone and gravel, may take as much more land within the limits of its charter, in the manner provided hereinafter, as may be necessary for the proper construction and security of the road.

5. To construct their road across or upon any stream of water, watercourse, road, highway, railroad or canal, which the route of its road shall intersect; but the corporation shall restore the stream or water course, road or highway, thus intersected, to its former state or in a sufficient manner not to have impaired its usefulness, and to be subject to the power vested in the canal commissioners by the twenty-fourth section of the ninth title of the ninth chapter of the first part of the revised statues; but nothing in this act contained shall be construed to authorise the erection of any bridge or any obstruction across, in or over any navigable stream.

6. To cross, intersect, join, and unite its railroad with any other railroad before constructed, at any point on its route, and upon the grounds of such other railroad company, with the necessary turn-outs, sidings and switches, and other conveniences, in furtherance of the objects of its connections. And every company whose railroad is or shall be hereafter intersected by any new railroad shall unite with the owners of such new railroad in forming such intersections and connections, and grant the facilities aforesaid.—And if the two corporations cannot agree upon the amount of compensation to be made therefor, or the points and manner of such crossings and connections, the same shall be ascertained and determined by commissioners, to be appointed by the court as is provided hereinafter in respect to the taking of lands.

7. To take transports, carry, and convey persons and property on their railroad by the power and force of steam, of animals, or any mechanical powers, or by any combination of them, and receive tolls or compensation therefor.

8. To erect and maintain all necessary and convenient buildings, stations, depots, and fixtures, and machinery for the accommodation and use of their passengers, freights and business, and obtain and hold the lands necessary therefor.

9. To regulate the time and manner in which passengers and property shall be transported, and the tolls and compensation to be paid therefor, but such compensation for any passenger and his ordinary baggage, shall not exceed three cents a mile, unless by special act of the legislature, and shall be subject to alteration as hereinafter provided.

10. To borrow money to be applied to the construction of their railroad and fixtures, and purchase of engines and cars.

Sec. 20. Any number of persons not less than thirteen, intending to organise a corporation under the provisions of this act, and every company that may hereafter organise under this act, may present a petition to the legislature stating the place from and to which they propose to construct their road, and its location and route with reasonable certainty, or that they intend to run the said road on the most direct and eligible route between the points of terminus, and praying the legislature to determine whether the construction of said proposed road will be of sufficient public use to justify the taking of private property for the construction of the same; and if the legislature shall determine and decide by law that such proposed road will be of sufficient public utility to justify the taking of private property for constructing and maintaining such road under the provisions of this act, then such company when organised may enter upon, take possession of and use all such land, real estate and property as may be required for the construction and maintenance of their railroad, and the convenient accommodations appertaining to the same, making compensation in the manner hereinafter provided, for all land real estate and property thus taken possession of and used, except such as may be voluntarily given to or purchased at an agreed price by the said corporation. Whenever the said corporation shall not have acquired by gift or purchase, any land, real estate, or

property so required as aforesaid, or which may be affected by any operation connected with such construction and maintenance, the said corporation may present to the supreme court of the district where the said lands, real estate or property shall lie, a petition signed by its attorney or agent: describing with convenient accuracy and certainty, by map or otherwise, the lands, real estate or property so required to be taken or to be affected as aforesaid, setting forth the name and residence of each owner or other person interested therein as owner, tenant, lessee or incumbrancer, as far as known to such attorney or agent, or appearing of record; and praying the appointment of commissioners to ascertain the compensation to be made to such owners and persons interested for the taking or injuriously affecting such land, real estate or property as aforesaid. The court shall have satisfactory evidence that notice of an intended application, and the time and place thereof for the appointment of commissioners of appraisement between said corporation and the owners and persons interested in such lands, real estate and property had been given at least ten days previously to such owners personally, or to some person of suitable age, at their residences or on the premises, or by the publication thereof in a newspaper printed in the county in which such land, real estate or property may lie; such publication to be allowed only in respect to owners who shall appear by affidavit to have no residence in the county known to such agent or attorney, whereat such notice could be delivered as aforesaid. The court may adjourn the proceedings from time to time, shall direct any further notice thereof to be given that may seem proper; shall hear proofs and allegations of all parties interested touching the regularity of the proceedings, and shall by an entry in its minutes, appoint five competent and disinterested persons commissioners to ascertain such compensation as aforesaid, specifying in such entry a time and place for the first meeting of such commissioners.—The said commissioners before entering upon the duties of their office, shall take the oath prescribed by the twelfth article of the constitution of this state; any one of them may administer oaths to witnesses produced before them; and may adjourn, and may hold meetings for that purpose. Whenever they shall meet to hear proofs or allegations, unless by appointment of the court, or pursuant to adjournment, they shall cause reasonable previous notice of such meetings to be given to the said owners or parties interested, or their attorney or agent, and may each of them issue subpœnas and compel witnesses to appear and testify. They shall hear the proofs and allegations of the parties, and any three or more of them shall after viewing the premises, without fear, favor or partiality ascertain and certify the compensation proper to be made to the said owners and parties interested for the land, real estate and property so to be taken or injuriously affected as aforesaid, without any deduction or allowance on account of any real or supposed benefit or advantage which such owners or parties interested may derive from the construction of such road; and may in their direction assess a separate, reasonable sum in favor of the owners and parties interested, or of any person appointed by the court to appear as attorney for them, for costs expenses, and reasonable counsel fees. They or a majority of them, shall make, subscribe and file with the clerk of the county in which such lands, real estate or property shall lie, a certificate of their said ascertainment and assessment, in which such land, real estate and property shall be described by map or otherwise, with convenient accuracy and certainty. The court upon such certificate and due proof that such compensation and separate sums, if any be certified, have been paid by the parties entitled to the same, or have been deposited to the credit of such parties in some bank, for that purpose approved by the court, shall make and cause to be entered in its minutes a rule describing such lands, real estate and property in manner aforesaid, such ascertainment of compensation, with the mode of making it, and such payment or deposite of the same compensation as aforesaid: a certified copy of which rule shall be recorded and indexed in the proper clerk's register's office, in the like manner and with like effect, as if it were a deed or conveyance from the said owners and parties interested to the said corporation. Upon the entry of such rule the said corporation shall become entitled to use and occupy all lands, real estate and property described in said rule, as required to be taken as aforesaid, during the continuance of the corporation, by this or any subsequent act; and may take possession of, hold and use the same for the purposes of said road, and shall thereupon be discharged from all claims for damages by reason of any matter specified in said petition, certificate or rule of court. If at any time after an attempted or actual ascertainment of compensation under this or any other act, or any purchase by, or donation to the said corporation of any lands for the purposes aforesaid, it shall appear that the title thereby acquired to all or any part of such lands for the use of said road, or of said corporation, shall fail to be deemed defective the said corporation may proceed anew to perfect such title by procuring an ascertainment of the compensation proper to be made to any person or persons whose title, claim or interest in or lien upon such lands shall not have been compensated or extinguished according to law, and by making payment thereof in the manner hereinbefore provided as near as may be. And at any stage of such new proceedings or of any proceedings under this act the court may by a rule in that behalf made, authorise the said corporation, if already in possession, to continue in the use or possession, and if not in possession, to take possession of and use such premises during the pendency and until the final conclusion of such proceedings: and may stay all actions or proceedings against such corporation on account thereof, provided such corporation shall pay a sufficient sum into court, or give approved security to pay the compensation in that behalf when ascertained; and in every case where possession shall be so authorised, it shall be lawful for the owner or owners to conduct the proceedings to a conclusion, if the same shall be delayed by the said company. The said commissioners shall be entitled to receive from said corporation their reasonable disbursements and a compensation not exceeding two dollars for each day actually employed by them in the discharge of their duties; such compensation and disbursements to be taxed and allowed by the court. If any commissioner so appointed shall die, be unable or fail to serve, the court may appoint another in his place on reasonable notice of the application to be approved by the court. The proceedings hereby authorised, may be had in the supreme court, in a county court where the lands lie, and all motions to the supreme court for the appointment of commissioners, shall be made at a general or special term thereof in such county, or in an adjacent county. The said commissioners shall file their said certificate in the county where the lands to be affected may lie, or in any adjacent county, and any clerk shall transfer the same and proceedings connected therewith, to the clerk of the county in which the land to be affected may lie, or of any county adjacent thereto whenever such commissioners or clerk shall be so required by said corporation, its agent or attorney, provided that nothing in this section contained shall prevent the present legislature, before adjournment, from acting upon and determining the public use of such proposed railroads as have been or may be applied for at the present session.

Sec. 21. In case any married woman, infant, idiot or insane person, or any unknown owner or owners not personally notified to appear, and who shall not appear after such notice on the appointment of commissioners, shall be interested in any such lands, real estate and property, the court shall appoint some proper person to appear before the said commissioners and act as attorney for and in behalf of such married women, infant, idiot, insane person, unknown owner or non-appearing owner, not personally served with notice.

Sec. 22. If at any time after the location of the track of said road, in whole or in part, and the filing of the map thereof it shall appear to the directors of the said company, that the line in some parts thereof may be improved, it shall be lawful for the said directors from time to time alter the line and cause a new map to be filed in the office where the map showing the first location, is, or shall be filed, and may thereupon proceed to take possession of the lands embraced in such new location, that may be required for the construction and maintenance of said road on such new line, and the convenient accommodations appertaining to the same, and acquire the same either by agreement with the owner or owners, or by such proceedings, as near as may be, as are authorised under the preceding sections of this act, and use the same in place of the line for which the new line is substituted.

Sec. 23. Whenever the track of said rail-

road shall cross a railroad or highway, such railroad or highway may be carried under or over the track, as may be found most expedient, and in cases where an embankment or cutting shall make a change in the line of such railroad or highway desirable, with a view to a more easy ascent or descent. the company may take such additional lands for the construction of such road or highway on such new line, as may be deemed requisite by said directors. Unless the lands so taken shall be purchased or voluntarily given for the purposes aforesaid, compensation therefor shall be ascertained in the manner in this act provided as near as may be, and duly made by the said corporation to the owners and persons interested in such lands the same when so taken, on compensation made to become part of such intersecting railroad or highway in such manner and by such tenure as the adjacent parts of the same highway may be held for highway purposes.

Sec 24. If any such corporation shall, for its purposes aforesaid, require any land belonging to the people of this state, or to any of the counties or towns, the commissioners of the land office, and county and town officers respectively having charge of such land, may grant such lands to such corporations, for a compensation which shall be agreed upon between them, and if they shall not agree upon a sale and price, the same may be taken by the corporation as is before provided in respect to other cases.

Sec. 25. If the transportation of property on the railroad of any company formed under this act, running parallel or nearly parallel to any canal of the state, and within thirty miles of said canal, other than ordinary baggage of passengers transported thereon, shall in the opinion of the legislature, divert business of transporting property from any of the canals belonging to this state, the company owning such railroad shall pay to the canal fund, on all property transported upon its railroad other than the ordinary baggage of passengers transported thereon, the same tolls that would have been payable to the state, if such property other than such baggage, had been transported on any of such canals. And every such company shall make returns, at such time, and in such manner, as the commissioners of the canal fund shall prescribe, of all the property transported on its railroad, except the ordinary baggage of passengers transported on the same. And the said commissioners are hereby authorised and required to prescribe the manner in which such tolls so payable to the canal fund by such company, shall be collected and paid, and to force the collection and payment thereof, and to make such regulations as they shall deem proper for that purpose; and every such company that shall neglect or refuse to comply with any such regulation shall forfeit to the people of this state the sum of five hundred dollars for every day it shall so neglect or refuse; and in every case of such forfeiture, it shall be the duty of the attorney general to prosecute such company for the penalty, in the name of the people.

Sec. 26. If the legislature of this state shall, after the expiration of ten, and within fifteen years from the completion of any such road, make provision by law for the repayment to any such company of the amount expended by them in the construction of the said road. together with all monies for permanent fixtures and the actual value of the cars, engines machinery and chattles and real property then in use for the said road, with interest on such sums at the rate of ten per cent. per annum, together with all monies expended by said company for repairs or otherwise, for the purposes of said road, after deducting the amount of toll, freight and passage money received on said road, then the said road with all its fixtures and appurtenances aforesaid shall vest in and become the property of the people of this state.

Sec. 27. Every conductor, baggage master, engineer, brakeman or other servant of any such railroad corporation employed in a passenger train, or at stations for passengers, shall wear upon his hat or cap, a badge, which shall indicate his office, and the initial letters of the style of the corporation by which he is employed. No conductor or collector, without such badge, shall demand, or be entitled to receive from any passenger, any fare, toll or ticket, or exercise any of the powers of his office, and no other of the said officers or servants without such badge, shall have any authority to meddle or interfere with any passenger, his baggage or property.

Sec. 28. Every such corporation shall make an annual report to the state engineer and surveyor, of the operations of the year, ending on the first day of January, which report shall be verified by the oaths of the treasurer, and acting superintendent of operation, and filed in his office by the twentieth day of January in each year, and shall state:

1. The capital stock and the amount actuallg paid in.

2. The amount expended for the purchase of land, for the construction of the road, for buildings, and for engines and cars, respectively.

3. The amount and nature of its indebtedness and the amount due the corporation.

4. The amount received for the transportation of passengers, of property, of the mails, and from all other sources.

5. The amount of freight, specifying the quantity in tons, of the products of the forest, of animals, of vegetable food, other agricultural products, manufactures, merchandise, and other articles.

6. The amount paid for repairs, engines, cars, building and salaries.

7. The number and amount of dividends, and when paid.

8. The number of engine houses and shops —of engines and cars, and their character.

9. The number of miles run by passenger, freight and other trains respectively.

10. The number of men employed, and their occupation.

11. The number of persons injured in life or limb, and the cause of such injuries.

12. Whether any accidents have arisen from carelessness or negligence of any person in the employment of the corporation, and whether such person is retained in the service of the corporation.

Sec. 29. Any such corporation which shall neglect to make such report, shall be liable to a penalty of two hundred and fifty dollars, to be sued for in the name of the people for their use.

Sec. 30. The legislature may when any such railroad shall be opened for use, from time to time alter or reduce the rates of toll, freight, fare or other profits upon such road; but the same shall not, without the consent of the corporation, be so reduced, as to produce with said profits less than ten per centum per annum, on the capital actually paid in; nor unless on an examination of the amounts received and expended, to be made by the state engineer and surveyor and the comptroller, they shall ascertain the net income derived by the company from all sources for the year then last past, shall have exceeded an annual income of ten per cent, upon the capital of the corporation actually paid in.

Sec. 31. Any such corporations shall, when applied to by the postmaster general, convey the mail of the United States on their road or roads respectively; and in case such corporation shall not agree as to the rate of transportation therefor, and as to the time, rate of speed, manner, and condition of carrying the same, it shall be lawful for the governor of this state to appoint three commissioners, who, or a majority of whom, after fifteen days' notice in writing of the time and place of the meeting to the corporation, shall determine and fix the prices, terms and conditions aforesaid; but such price shall not be less for carrying said mails in the regular passenger trains than the amount which such corporation would receive as freight on a like weight of merchandise transported in their merchandise trains, and a fair compensation for the postoffice car. And in case the postmaster general shall require the mail to be carried at other hours and at a higher speed than the passenger trains be run at, the corporation shall furnish an extra train for the mail, and be allowed an extra compensation for the expenses and wear and tear thereof, and for the service to be fixed as aforesaid.

Sec. 32. If any passenger shall refuse to pay his fare, or toll, it shall be lawfull for the conductor of the train and the servants of the corporation to put him out of the cars at any usual stopping place the conductor shall select.

Sec. 33. Every such corporation shall start and run their cars for the transportation of passengers and property at regular times to be fixed by public notice, and shall furnish sufficient accommodation for the transportation of all such passengers and property, as shall within a reasonable time previous thereto, offer or be offered for transportation, at the place of starting and the junctions of other railroads, and at sidings and stopping places, established for receiving and discharging way passengers and freight; and shall take, transport and discharge such passengers and property at, from, and to such places, on the due payment of the tolls, freight or fare legally authorised therefor.

Sec. 34. In case of refusal by such cor-

poration or their agents so to take and transport any passenger or property, or to deliver the same or either of them at the regular or appointed time, such corporation shall pay to the party aggrieved, all damages which shall be sustained thereby with costs of suit.

Sec. 35. A check shall be affixed to every package or parcel of baggage, when taken for transportation by the agent or servant of such corporation, and a duplicate thereof given to the passenger or person delivering the same on his behalf. And if such check be refused on demand, the corporation shall pay to such passenger the sum of ten dollars to be recovered in any action of debt, and further, no fare or toll shall be collected or received from such passenger, and if such passenger shall have paid his or her said fare, the same shall be refunded by the conductor in charge of the train; and on producing said check, if his or her baggage shall not be delivered to him or her, he or she may himself or herself be a witness in any suit brought by him or her, to prove the contents and value of said baggage.

Sec. 36. If forming a passenger train, baggage, or freight, or merchandise or lumber cars, shall not be placed in rear of passenger cars: and if they, or any of them shall be so placed, and any accident shall happen to life or limb, the officer or agent who so directed, or knowingly suffered such arrangement, and the conductor and engineer of the train, shall each and all be held guilty of intentionally causing the injury, and be punished accordingly.

Sec. 37. A bell of at least thirty pounds weight shall be placed on each locomotive engine, and be rung at the distance of at least eighty rods from the place where the railroad shall cross any road or street, and be kept ringing until it shall have crossed such road or street; under a penalty of fifty dollars for every neglect, to be paid by the corporation owning the railroad, one half thereof to go to informer and the other half to the state, and also be liable for all damages which shall be sustained by any person, by reason of such neglect.

Sec. 38. Every such corporation shall cause boards to be placed, well supported by posts or otherwise, and constantly maintained across each public road or street where the same is crossed by the railroad on the same level; said boards shall be elevated so as not to obstruct the travel, and to be easily seen by travellers, and on each side of such boards shall be painted in capital letters of at least the size of nine inches each, the words "rail road crossing, look out for the cars while the bell rings;" but this section shall not apply to streets in cities or villages, unless the corporation be required to put up such boards by the officers having charge of such streets.

Sec. 39. If any person shall, while in charge of a locomotive engine running upon the railroad of any such corporation, or while acting as the conductor of a car or train of cars on any such railroad, be intoxicated, he shall be deemed guilty of a misdemeanor.

Sec. 40. If any person shall wilfully do or cause to be done, any act or acts whatever, whereby any building construction, or work of any such corporation, or any engine, machine, or structure or any matter or thing appertaining to the same, shall be stopped, obstructed, impaired, weakened, injured, or destroyed, the person or persons so offending shall be guilty of a misdemeanor, and shall forfeit and pay to the said corporation, treble the amount of damages sustained by means of such offence.

Sec. 41. All penalties imposed by this act except the penalty imposed by the twenty-fifth section thereof, may be sued for by any district attorney, and in the name of the people of the state of New York, and if such penalty be for a sum not exceeding one hundred dollars, then such suit may be brought before a justice of the peace.

Sec. 42. Such corporation shall erect and maintain fences on the sides of the road, of the height and strength of a division fence as required by law, with openings and gates therein, and farm crossings of the road for the use of the proprietors of lands adjoining such railroad, and also construct and maintain cattle guards at all crossings, suitable and sufficient to prevent cattle and animals from getting on the railroad. Uutil such fences and cattle guards shall be duly made, the corporation and its agents shall be liable for all damages which shall be done by their agents or engines to cattle, horses or other animals thereon, and after such fences and guards shall be duly made, the corporation shall not be liable for any such damages, unless negligently or wilfully done, and if any person shall ride, lead, or drive any horse or other animal upon such road, and within such fences and guards other than at farm crossings, without the consent of the corporation, he shall for every such offence forfeit a sum not exceeding ten dollars, and shall also pay all damages which shall be sustained thereby to the party aggrieved.

Sec. 43. Every such corporation shall, within a reasonable time after their road shall be located, cause to be made:

1. A map and profile thereof, and of the land taken or obtained for the use thereof. and file the same in the office of the state engineer and surveyor. And also like maps of the parts thereof located in different counties, and file the same in offices for recording deeds, in the county in which such parts of said road shall be, there to remain on file as of recold forever. Every such map shall be drawn on a scale and on paper, to be designated by the state engineer and surveyor, and certified and signed by the president of such corporation.

2. A certificate specifying the line upon which if is proposed to construct the railroad and the grades and curves.

Sec. 44. If any such corporation shall not within two years after its incorporation, begin the construction of its road, and expend thereon ten per cent. on the amount of its capital, and finish the road and put it in full operation in five years, its act of incorporation shall become void.

Sec. 45. The legislature may, at any time amend or annul or repeal any incorporation formed or created under this act; but such amendment or repeal shall not, nor shall the dissolution of any such corporation, its stockholders or officers, for any liability which shall have been previously incurred.

Sec. 46. All existing railroad corporations within this state, shall respectively have and possess all the powers and privileges, and be subject to all the duties, liabilities, and provisions contained in this act, so far as they shall be applicable to their present conditions, and not inconsistent with their several charters; and all railroad companies that are now constructing their roads, may acquire title to lands necessary for that purpose, under the provisions of this act: *Provided*, that nothing in this act contained, shall authorise any existing railroad company to carry freight without the payment of canal tolls, pursuant to the act entitled "An act relating to the transportation of freight on certain railroads," passed May. 12, 1847.

Sec. 47. This act shall take effect immediately.

State of New York, } I have compared the
Secretary's Office. } preceding with the original law on file in this office, and do certify that this is a correct transcript therefrom and of the whole of said original.

CHRISTOPHER MORGAN, *Sec. of State.*

COMPRESSED-AIR LOCOMOTION ON COMMON ROADS.

Another exhibition of the capabilities of the locomotive engine of Baron Von Rathen, worked by compressed-air, took place on Thursday week, on the road between Putney and Wadsworth. This trial, which was the third, was for testing the apparatus for working the air expansively, which, however, was unfortunately, leaky, and much of the power was lost; but for which accident, attributable to the absence of the regular workmen from the College manufactory, a much greater speed would have been attained. As it was, however, the carriage, weighing 3 tons, and carrying from 25 to 30 persons, started in good style, and kept pace with former experiments, as to time and distance: the motion was very regular, and the machinery stood well—the only casuality being the above leakage. The patentee considers he has now completely solved the problem of the practicability of employing compressed-air in locomotion, and regulating it as to distance, speed, load, nature of road, &c.—on which, with the greater or less perfection in the construction of the machinery, its success, of course, depends. He is prepared to show to mathematical demonstration, that he, can embody sufficient power in this model air-carriage to carry 4½ tons, including carriage, 10 miles in one hour on common roads, or a train of 45 tons in the same time the same distance on a railroad; but if carried out on a large scale on the latter, he contends that the system would effect a saving of 75 per cent. over the steam locomotive. These trials with heavy loads are of much interest and worthy of encouragement, as the first efforts of a new system; and we shall feel much pleasure in continuing to report their progress.—*London Mining Journal.*

WROUGHT IRON BOW-STRING GIRDERS FOR BRIDGES.



The above diagram represents a wrought iron rib, or girder, now being employed in the construction of bridges, of 120 and 130 feet span, at Messrs. Fox, Henderson & Co's establishment, the London Works, near Birmingham, under the superintendence of Mr. Joseph Lock, C. E., M. P.; and bridges of similar construction will shortly be erected on the extension line of the Blackwall railway. On Wednesday last one of them was publicly tested at the works, in the presence of Capt. Simmons and Wynne, R.E., the government inspectors of railways; Lieut. Douglas Galton, R. E., the secretary to the government board of commissioners for inquiring into the strength of iron, was present on behalf of the board; Mr. G. F. Munts, M. P., the mayor of Birmingham (Mr. C. Geach), Messrs. C. Vignoles, W. Fairbairn, J. Whitworth, C. B. Ker, W. J. Stanton, C. H. Wild, Professor Cowper, and between 80 and 90 other scientific gentlemen and engineers attended to witness the trial. The bridge rib had been erected, ready for proof, in an open space in front of the London works, and presented a clear span of 120 feet between the bearings. It is constructed entirely of wrought iron, and consists of an arch of boiler plates and angle iron, tied across at the ends by horizontal bars—and the tie bars are connected with the arch by vertical standards, and by a double system of diagonals, which have the effect of distributing over the whole curve of the arch the action of weights placed on, or passing over any point of the bridge. The proof was applied by loading the bridge rib with 240 tons of rails, bars, etc., and it produced the following satisfactory results, as the weight was applied:

Weight in tons of rails, etc., placed on the cross girders. Tons.	Extreme amount of deflection produced at centre of arch. Inches.
34½	0 1-16
68½	0 5-8
102½	1 5-16
137	2 1-8
171½	2 3-4
205½	3 5-16
240	3 11-16ths.

The proof weight was fixed at 240 tons, as being double the greatest load which the bridge can by any possibility be ever required to bear. A heavy goods' train weighs less than half a ton per foot lineal; a train, consisting entirely of locomotive engines (which would be the heaviest of all possible trains) would only weigh one ton per foot lineal, and, consequently, would place a load of not more than 120 tons on a bridge of a 120 feet span. The new bowstring bridge has, therefore, been proved to twice the weight which ever can be placed upon it, and to four times the weight which it is ever likely to to have to bear. It is scarcely necessary to add, that the trial gave great satisfaction to all parties. These ribs are adapted for large spans, in cases where either headway is of importance, or where sufficient abutment cannot be obtained, without very heavy expense. Bridges constructed of these ribs may be employed with perfect safety for very large spans, in precisely the same manner as ordinary girders are used for small ones. The strength of the bridge depends upon the rib, or arch, and on the tie bars by which the extremities are held together.—The vertical standards are introduced, partly to suspend the load from the arch, and partly to obtain longitudinal and transverse firmness; they also support the tie-bars. The diagonals are employed for the purpose of preventing undue deflection in the rib, when the bridge is unequally loaded. The rib itself is constructed of boiler-plates and angle-iron rivited up in the form of a hollow trunk; it is strongly tied together, so that the full section of the plates and angle-iron may be depended upon to resist the crushing strain. In order to give this trunk additional lateral stiffness, the side plates, which form the top are made to overhang, and are strengthened on the edges by angle-iron, &c. The tie-bars measure about 8 in., by 1 in. each, and are introduced in sufficient numbers to take the whole strain. The ribs are supported at each end on cast-iron shoes fixed at the one end to the piers, and mounted at the other on sliding frames and rollers. This arrangement provides, not only for expansion and contraction, but also for motion under a very heavy load. The action of these parts under proof has been found to be perfect. Cross girders, constructed entirely of wrought-iron, are suspendad between the ribs. Besides the above experiments on the Blackwall extension bridge, the two ribs for a bridge, 130 feet span, have been proved with a weight of 260 tons—*i. e.* 2 tons per foot lineal—each put on in dead weight, by suspending cast-iron cross girders underneath the points where the wrought iron girders are intended to be attached, and by placing thereon 260 tons of rails, pigs, bars, etc. In proving, the load was first put on two points at one end, then on the next two points, and so on, in order to produce, as nearly as possible the same effect as the passage of a heavily loaded train. In the case of one rib, the load was allowed to remain for several days, and then removed. After the lapse of a few days, the same load was replaced, and again allowed to remain some days. The results were very satifactory.

During the process of proving, observations were taken with a dumpy level, placed at a distance; and the sinking of the bearing plates in the ground was observed and noted. The bridges now being constructed, are intended to carry a double line of rails; and the test appiied is, therefore, equal to two tons to each foot lineal of single line of way.—This test was fixed upon in the belief that the greatest possible load which can in working be placed upon each line of rails, is about one ton per foot lineal; and tnat, to provide for the additional strain caused by the rapid motion, etc., of the practical load of trains passing, the proof of weight ought to be fixed at double the greatest possible load. In very large spans, (say 400 feet and upwards,) it would be necessary on many accounts, to use four ribs, instead of two, and to brace all the four ribs together overhead, so as to obtain additional transverse stiffness.—*London Mining Journal.*

Railway Keys, to Prevent their Shrinking.

The Chronicle says that "Mr. Barlow, C. E., of Derby, has patented his plan for securing the rails from becoming loose in the chairs, by contracting in dry weather, by impregnating the keys with matter insoluble in water, so as nearly to prevent contraction and expansion. The materials which the patentee prefers are—4 gallons of creosote, 1 of naptha, 24 lbs. of pitch and ¼ a gallon of boiled linseed oil, mixed together—one gallon of the mixture to each cubic foot of wood. The wooden keys, after being cut to the desired form, are dried by steam for four hours, which causes them to shrink considerably; they are then taken to the drying stove, and while hot, subjected to the saturating process, either by simple immersion, from 16 to 24 hours, or by exhaustion and injection. He recommends that they should be subjected to pressure, in the usual manner of compressing railway keys."

NEW YORK & PHILADELPHIA.


NEW JERSEY RAILROAD & TRANSPORTATION CO.—


6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11¼ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

RAILROAD IRON.

THE MOUNT SAVAGE IRON WORKS, Allegheny County, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron.—Communications addressed to either of the subscribers will have prompt attention.

J. F. WINSLOW, President Mount Savage Iron Co., Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.

November 6, 1848.

JAMES LAURIE, *Civil Engineer.*

No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.

October 14, 1848. 6m*

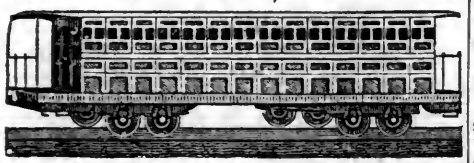
RAILROAD IRON.

THE NEW JERSEY RAILROAD & TRANSPORTATION CO. have for sale from 450 to 500 tons of Iron Rails, weighing from 35 to 37 lbs. per yard, of the T pattern, recently taken up from their road to give place to a heavier rail, together with Chairs and Spikes to correspond, which they will sell cheap for cash; the rails have been straightened and prepared for re-laying, and are now ready for delivery on the dock at Jersey City. Apply at

57 Merchants Exchange,
August 23, 1848.—3t* New York.

CAR MANUFACTORY,

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.
Cincinnati, Ohio, October 2, 1848. 41tf

TO CONTRACTORS.

BURLINGTON AND MOUNT HOLLY RAILROAD.—Sealed proposals will be received by the subscriber until the evening of the 13th of November next, for the Grading, Bridging, and Masonry of the Burlington and Mount Holly Railroad, about seven miles in length.

Plans, profiles, etc., may be seen, and all necessary information obtained of H. L. Southard, at the Engineer's office, in Burlington, after the 10th of November.

The company reserve the right of rejecting all bids deemed incompatible with their interests.

ROBERT S. VAN RENSSELAER.
Burlington, October 39, 1848. 2t45

RAILROAD IRON.

THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to

COOPER & HEWITT, Agents,
17 Burling Slip, New York.
October 30th, 1848.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS

OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS,
1y48

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.
New York, Sept. 16. 1848, 39tf
Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The ridiculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.
September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS EOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

RAILROAD SCALES.---THE ATTENTION

of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
:y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM **1 1-2** TO **8** INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES. OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. / A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

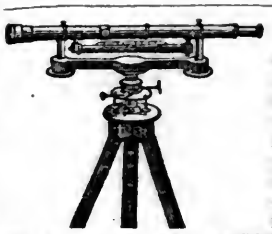
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

RAILROAD IRON.

THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.
New York, October 25, 1848. tf

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.
ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.
Kensington, Philadelphia Co., March 12, 1848. 1ltf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames* and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE

Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH

for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee

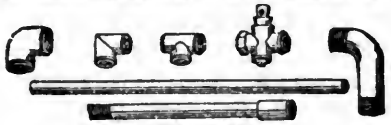
G. A. NICOLLS,
Reading, Pa.
ja45

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

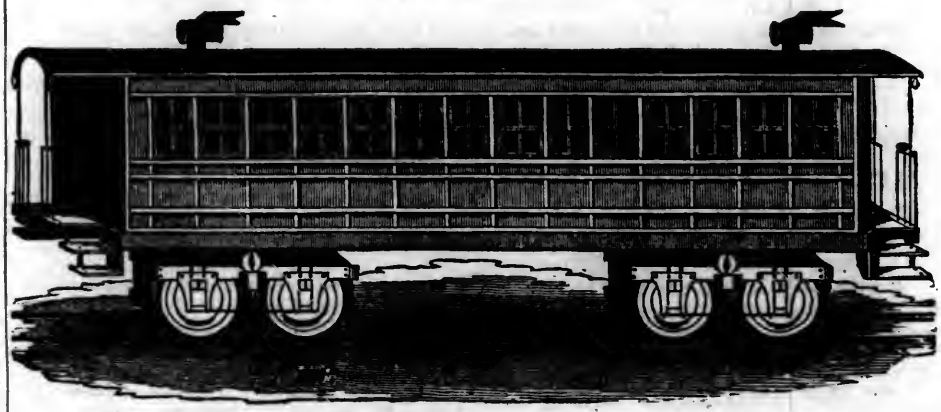
LAWRENCE'S ROSENDALE HYDRAULIC CEMENT.

This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
No 79 Water St., New York.
26tf

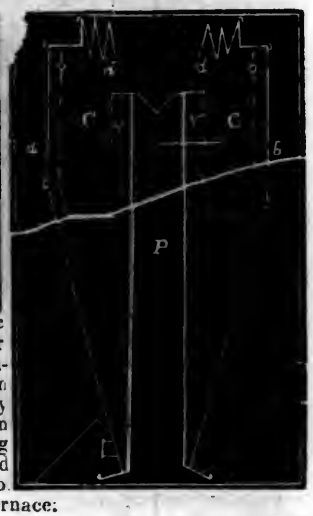
RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

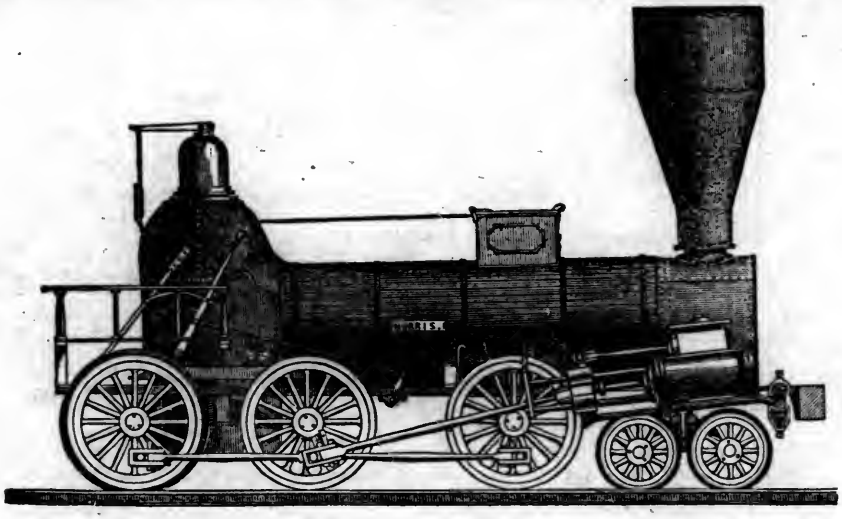
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

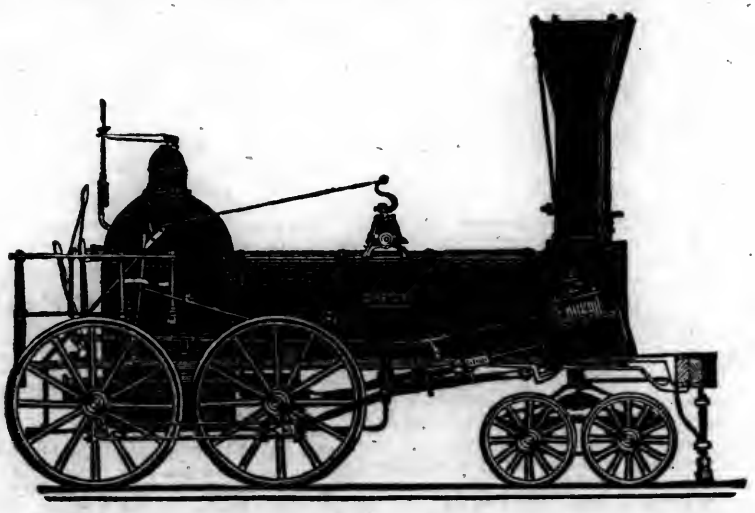
Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paidto the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25,1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
.C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44•1v

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

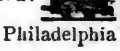


This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery.....	40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y10 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

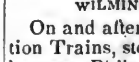
The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the




Trains will run as follows:

Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after

Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

☞ NOTICE. ☜

RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.	6 P.M.
Going east.		**1st train.**	**2d train.**	**3d train.**
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)

T. Y. HOWE, JR.,
Secretary of the Convention.

BOSTON AND MAINE RAILROAD.


Winter Arrangement.
Commencing Nov. 13, 1848.


Trains leave Boston as follows, viz: For Portland at 7 A.M. and 2½ P.M.

Great Falls at 7 a.m., 2½ and 3½ p.m.

Haverhill at 7 and 11½ a.m., 2½, 3½ and 5 p.m.

Lawrence, at 7, 9, 11½ a.m., 2½, 3½, 5, 6 p.m.

Reading 7, 9 & 11½ a.m., 2½, 3½, 5, 6, 7½ & 10 p.m

Trains leave for Boston as follows, viz: From Portland at 7½ a.m., and 3 p.m.

Great Falls at 6½ and 9½ a.m., and 4½ p.m.

Haverhill at 7, 8½ and 11 a.m., 3 and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6½, 7, 7½, 9½, 11½ a.m., 1½, 3½, 7½, 9, p.m.

MEDFORD BRANCH TRAINS.

From Medford at 6½, 8, 10½, a.m., 2, 4, 6, 9 p.m.

From Boston at 7½, 9½ a.m., 12½ 2½, 5½, 6½, 10 p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, Nov. 7, 1848.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y

NORWICH AND WORCESTER RAILROAD. Winter Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 2½ p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

f25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

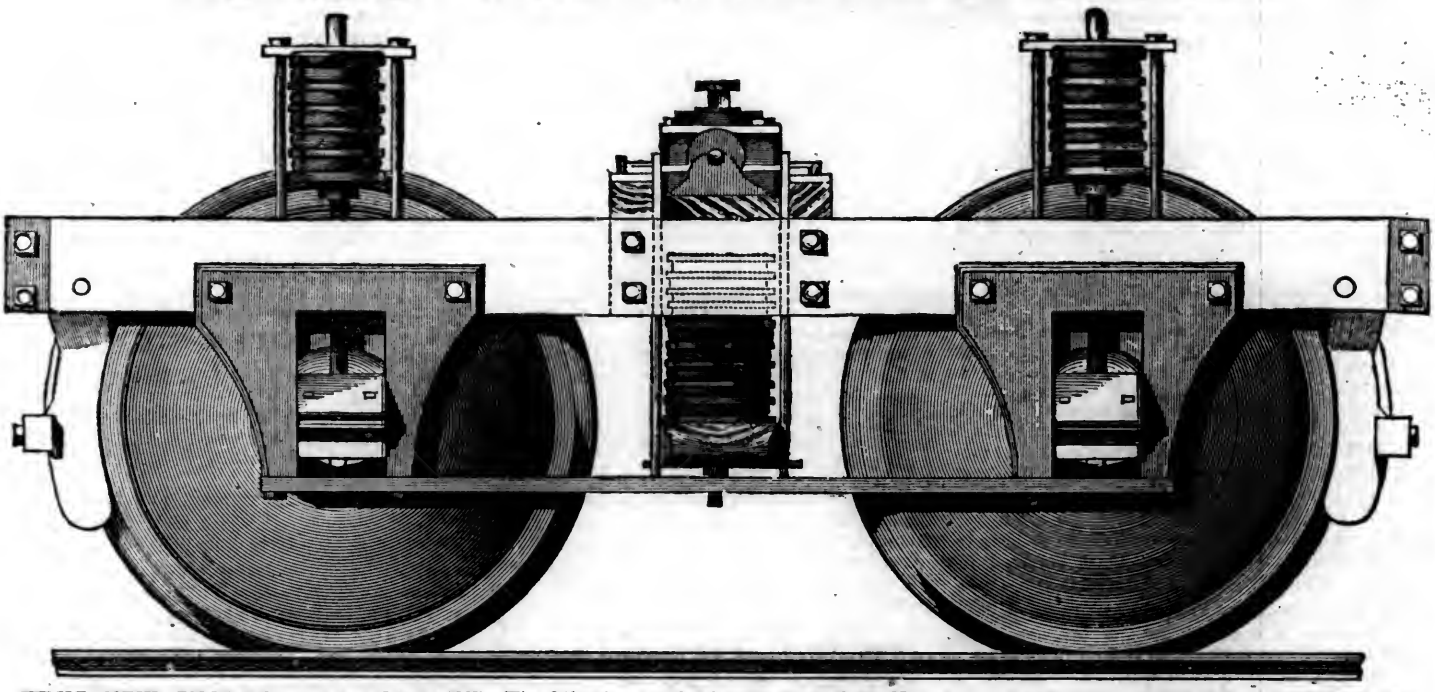
Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FOWLER M. RAY'S

METALLIC INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation on its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers anu Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum.	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 48.] SATURDAY, NOVEMBER 25, 1848. [WHOLE No. 659, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, November, 25, 1848.

Raising Coals by Steam.

At the "Hetton Colliery" an engine is used for drawing coal to the surface from a depth of about 490 yards, which raised in 45 seconds no less than 4800 pounds, being two corves, each holding thirty bushels, calculating the weight per bushel at 30 lbs. —this is exclusive of the weight of the corves, rope, etc. The rope employed is 8 to 9 inches wide, and 1¼ to 2 inches in thickness; it will thus be seen that upwards of 2 tons weight is raised in three-quarters of a minute, and allowing 15 seconds for change, this would give an output of no less than 1840 tons from one pit in the 12 hours, from a depth of no less than 245 fms. The advantages alone, in a pecuniary point of view, must be at once apparent, from the application of machinery, and the rapid progress made in the increase of power acquired, and the economy of time and money.

TO CONTRACTORS.

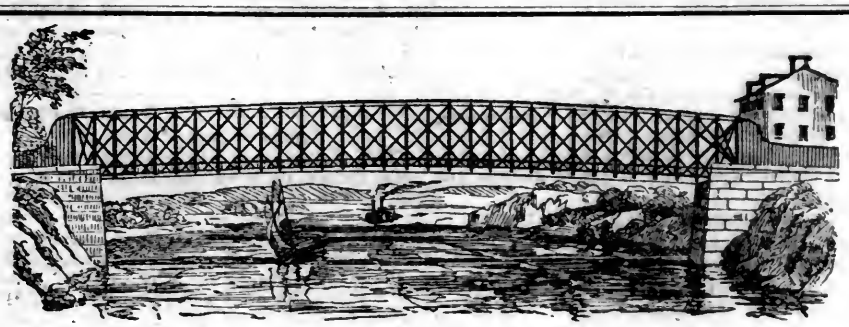
OFFICE NASHVILLE & CHATTANOOGA R.R. Co.
Nashville, 9th November, 1848.

PROPOSALS WILL BE RECEIVED AT this office on 20th December next, for the Graduation and Masonry of forty miles of road, viz: twenty miles next to Nashville, ten miles crossing the Barran fork of Duck river in Bedford county, Tennessee, and ten miles on the northwest side of Tennesee river, in Jackson county, Alabama.

Profiles and plans may be seen at this office after 12th December. By order of the board.

C. F. M. GARNETT,
Chief Engineer.

N. B. Twenty-five miles of road (including the Tunnel,) and six miles heavy mountain work are under contract. Seven Hundred Laborers are wanted by the Contractors. 5t*48



RIDER'S PATENT IRON BRIDGE.

THE RIDER IRON BRIDGE having now been fully tested on the Harlem Railroad, by constant use for about eighteen months, and found to answer the full expectations of its most sanguine friends, is now offered to the public with the utmost confidence as to its great utility over any other Bridge now known.

The plan of this Bridge is to use the iron so as to obtain its greatest longitudinal strength, and at the same time is so arranged as to secure the combined principles of the *Arch*, *Suspension* and *Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

THE RIDER IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Rail Road or other purposes, made under the above Patent, at short notice, and at prices far *more economical* than the best wood structure, and on *certain conditions*, the first cost may be made the same as wood.

Models, and pamphlets giving full descriptions of the RIDER BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, 74 BROADWAY, *up stairs*, or of W. RIDER & BROTHERS, 58 *Liberty Street*, where terms of contract will be made known, and where orders are solicited.

M. M. WHITE,
November 25, 1848. Agent for the Company.

Long and High Viaduct.

"The ceremony of keying the last arch of the Dee viaduct," says the Shropshire Conservative, "took place on the 28th August, in the presence of the directors and their friends. The length of this unrivalled viaduct is 1,508 feet, the height 147 feet, the number of arches 19, and the span of each arch 60 feet."

Iron Buildings in New York.

We recently discovered a *curiosity* in the way of building stores and manufactories in New York.

There is now being erected on the corner of Duane and Centre streets a building of — by — feet, and four stories high, for a machine shop, which, above the foundation, is to be entirely of *iron*, except the beams and floors. The gentleman who has planned and is erecting this building, has formed a set of moulds from which every part is to be cast, so as to match its fellow, and when each piece is put successively in its place, it is secured by bolts having a screw and nut to fit, which, when turned up firmly, make the whole superstructure exceeding *firm* and substantial.

As this plan is in accordance with views long entertained by us, we shall watch and report its progress with some interest—and hope to give full details of its construction.

Morse's Claim to the Telegraph.

Mr. Morse's claim to the telegraph which bears his name, and will bear it forever, is vindicated in an able article by the New York Observer, which sets forth in clear language the point in dispute.—The editor says:

"Mr. Morse claims to be the *inventor* of the application of electro-magnetism to the making of characters, marks, letters, or anything by which intelligence may be transmitted over wires. It is this application of electro-magnetism which is secured to him; besides this he has invented various machinery to be employed in the work, all of which is also secured by patent; but the main thing which he claims is the application of a power to the production of a new result; *this application* is the *invention* —the machinery is subordinate; once invent the thing, and it is comparatively easy after it has been done, to make another, or a hundred other machines

by which the same result shall be reached. All of these may be improvements or misimprovements upon the first, but if they are designed to make the application which belongs to the original inventor, they are infringing upon his patent.

"The law of patents is explicit on this point, and is obviously founded on the plainest principles of equity. If it were not so, there would be no inducement to men of genius to aim at new combinations, or new applications of old and well known principles. If the patent law did not protect them, it would be impossible for them to secure the profits of their labor; for as soon as genius has marked out the way, it is very easy even for dullness to come after and improve the road. No sooner is a new application of a principle discovered, and its advantages made known to the world, than all the wits of men are set to work to do the same thing in a better way: and if it were true that the patentee has no better right to the use of his discovery of the application than the pirates who plunder him, then the inventor is instantly stripped of all hope of reward, and must take his chance with those who have robbed him."

Rensselaer and Saratoga Railroad.

In compliance with the resolution of the honorable the assembly, passed Feb. 2d, 1843, the Rensselaer and Saratoga railroad company would respectfully submit the following report:

The Rensselaer and Saratoga railroad, extending from the city of Troy to the village of Ballston Spa, is 25 miles long.

The cost of construction is $475,801 10.

The receipts of the road from January 1, 1847, to December 31, 1847, both days inclusive, are:

From passengers, 24,100 through	$20,920 00
" 42,193 way	11,643 11
Freight	9,402 66
Mail	242 50
Bridge tolls	10,747 67
From all other sources	313 96
The expenditures of the company for the same period, for repairing and running road	$35,291 24
Expenses of toll bridge	2,427 05
Dividend	21,000 00
The number of locomotive engines is	2
" passenger cars, 8 wheel, is	3
" " 4 "	12
" freight cars, 8 "	3
" " 4 "	8
No. of miles run by engine with passenger train	24,726
Number of miles run by horses	9,418

L. R. Sargent, Supt.

Long Island Railroad Report.

In compliance with the 37th section of the act of incorporation, passed 24th April, 1835, and certain resolutions of the assembly, adopted 2d February, 1813, the Long Island railroad company submit the following report for the year ending 31st December, 1847:

Length of road, including the Brooklyn and Jamaica road of 11 miles under lease to this company, 96 miles.

Length of Hemstead branch road, 2¼ miles.

Cost of construction		$2,027,991 68
Income from passengers	$111,646 35	
" freight	37,169 59	
" mails and other sources	6,889 06	
		158,705 60
Expenses for repairs of road.	20,067 99	
All other expenses, including salaries and rent of Brooklyn and Jamaica road	122,152 43	
		142,220 42
Paid on account of construction during the year 1847		17,337 51
Number of passengers transported		194,316
Amount of dividends		none.
Number of locomotive engines owned by the company		15
Number of passenger cars		22
" mail cars		2
" baggage cars		10
" freight cars		126
" smith and machine shops		3
" horses		11
Average number of men employed by the co.		140
Number of miles run by passenger trains		110,093
" " freight trains		64,270

James H. Weeks, Prest.

M. Maynard, Sec'y.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 11th inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Nov. 14	2,967 05	208,068 08
By Room Run "	3,860 01	114,682 06
By Hazleton	1,932 00	83,447 00
By Beaver Meadow	1,184 15	79,032 08
By Buck Mountain	1,624 02	68,834 02
By Spring Mountain	1,546 17	59,922 17
By Cranberry Mines	780 00	15,435 00
White Haven	345 11	9,973 05
Diamond Co	361 00	5,644 09
Total	14,601 14	645,040 15

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 16th inst., and since the 1st of January, has been as follows—

	Tons.	
From Schuylkill Haven	8,969 19	
" Pottsville	4,662 00	
" Port Carbon	6,768 14	
" Port Clinton	2,914 12	
Total this week	23,315 05	
Total this year		1,119,983 00

The amount of coal brought to market by the Schuylkill canal during the week ending the 16th inst., and since the opening of the canal, has been as follows:—

	Tons.	
From Pottsville and Port Carbon	9,001 15	
" Schuylkill Haven	3,848 15	
" Port Clinton	877 18	
Total this week	13,728 08	
Total this year		411,318 15

Recapitulation.—Total Shipments this Season.

By Lehigh companies	645,040 15
By Reading railroad	1,119,983 00
By Schuylkill canal	411,318 15
Total	2,176,342 10

Ritchie's Improved Locomotive.

We find the specification of Ritchie's improvements in locomotive engines, with an illustration, in a late number of the London Mining Journal—which we give to our readers in this week's paper. Mr. Ritchie uses four large drivers, placed two at each end of the boiler, worked by two large cylinders placed in the centre, with pistons at each end, with a pair of small wheels under the centre. The centre of gravity is very low.

Vermont Central Railroad.

Third Annual Report, August, 1848.

The third annual report of this company shows that the work upon the road has been pushed forward with energy, and that the shareholders and the public may look forward confidently to an early completion of the road, and thus to an easy communication with Boston; and, by connection with the Ogdensburgh road, with the western lakes, and the fertile regions on their shores.

How few of the people residing along the line of this road have justly appreciated its future value to them, and its influences upon their lands. How few can now realise that it is to become a thoroughfare for the manufactures of the east, going west, and of the produce of the west going east; yet such will it become.

At the meeting of the directors it was recommended to issue new stock at 50 per cent., and offer it prorata to the then stockholders; and this proposition was approved by the stockholders at their annual meeting held immediately after, as will be seen by their resolutions and the resolution of the directors and officers.

It would belie the character of the people of Vermont to entertain a doubt as to the success of this road when completed; or its completion at the earliest possible period; and when completed, it will find the Ogdensburgh road ready to shake hands, and interchange civilities, by giving rich freights from the lakes, and receiving them from the Atlantil, not only by the *Northern* New Hampshire, but also by the *Cheshire* railroad, thus showing that the Vermont Central road occupies an exceedingly favorable position.

DIRECTOR'S REPORT.

To the Stockholders of the Vermont Central Railroad Company:

The directors report, that during the past year the work of construction has been steadily prosecuted by the contractor, under the direction of the board; and for the purpose of showing what has already been accomplished, as well as what remains to be done, the three general divisions of the road will be separately considered.

1. *The Connecticut River Division.*—This division extends from Windsor to the mouth of White river—15 miles. It is entirely graded, and the bridges are built ready for the rails. The cross ties for the superstructure have been delivered and paid for, and are now lying at the summit in Roxbury, ready for transportation. A contract for rails of English manufacture has been made, and upon that contract the sum of $30,000 dollars has already been paid. The roadbed of this division is generally of a good material, and nearly the whole is covered with two feet of excellent gravel. To complete this division, the superstructure and depots are required.—One depot only has been commenced, to wit, at Windsor, for which, however, the company has as yet been required to make no payment. The board has determined to build a depot at this point, with suitable arrangements of car houses and offices required for the connection of the Cental and Sullivan railroads, at a cost not exceeding $15,000; and its construction has been commenced in the expectation that the Sullivan and Cheshire roads, connecting with the Central road at Windsor, will be completed the present year. The remaining depots required are at Hartland and Queeche village, each estimated at $1300. The am't expended on this division was $386,136 80

The estimate amount required to complete this division, including superstructure, rails, land damages and depots, is 180,380 60

Total cost, . . . $566,520 40

Making the cost $37,770 per mile, exclusive of furniture.

2. *The White River Division.*—This division extends from a point opposite West Lebanon, N. H., to Northfield—52¾ miles. It has been graded, and the rails laid, so that the road is in running order to Roxbury, within 10 miles of the depot at Northfield.—The road will be in operation to the summit this week, and to Northfield within the ensuing month. The roadbed is of excellent materials, and has been in good part gravelled. The masonry and bridges, also, upon this, as upon the Connecticut river division, are of the most substantial kind; and the road, so far as completed, is, in the opinion of competent judges, among the best ever constructed in this country.

Depots of suitable size, handsome and uniform in appearance, and conveniently arranged, have been contracted for and partly constructed. Those at Bethel, Randolph and Roxbury have been built—the two first costing $1100 each, and the last named 600. The depot at Northfield, of which we shall more particularly speak, is nearly completed. Depots have been contracted for at the following places: White River Village, at $1200, and Royalton and North Royalton at 1150 each. The one at Royalton is wholly built by the liberality of citizens of that place, and about half of that at North Royalton. Other depots required will soon be contracted for at similar prices.

Freight houses of a cheap construction and uniform appearance, have been or will be built at these places, and at other points required. Three water stations, of the most approved kind, have already been erected; and all of these buildings it is believed will be entirely satisfactory to the stockholders as to economy, and to the public for their arrangements and appearance.

After long and careful deliberation and examination, the board decided to locate the engine house and machine shop at Northfield. From the experience of other roads and the best information they could obtain, they came to the conclusion that these arrangements should be located near the centre of a road of this length, 115 miles. The distance would be too great for a locomotive to be taken from end to end for repairs or inspection; there must therefore be either two machine shops, one at each end of the road, or one near the centre—and the nearer the better. Northfield is near the centre, and also is on the northern side of the summit, at the commencement of a section of five miles of forty feet grade, where locomotives will be ready to assist the heavy trains coming from the north loaded with produce. It is also near the summit, where fall the heavy snows of winter, and the engines at this station will be at hand always to overcome this difficulty, the only one of the kind upon the whole line.

The fixing upon that place for the machine shop and engine house rendered it necessary to provide suitable rooms for the accommodation of passengers while the engines are being changed, and also such as will be proper for the officers, clerks, and business of the road. A. B. Young, Esq., was invited to furnish designs for buildings suitable for such a road, which were approved of by the directors, and the president was instructed to have the buildings in readiness at the opening of the road to Northfield. The depot is nearly finished, and must be considered creditable to the architect who planned it and to the company which has caused its erection; and when it is understood that this building has cost only $11,571 22, it is believed that this expenditure will be entirely satisfactory to the stockholders.

The machine shop and engine house are upon the most approved plans, well arranged and substantially built, and thus far at a very low cost, compared with like structures upon other roads. Mr. Young, having this day examined, reports that the amount already expended on these buildings is $8000, and the sum required for completion will not exceed $11,000, making the whole cost 19,000.

The total expenditure for depots, freight houses, engine house, and machine shop, up to this date, has been $23,481 91.

The amount expended upon this division is, . . .	$1,445,535 26
The estimated cost of completing it is	126,303 16
Total cost, . .	1,571,838 42

Making the cost $29775 per mile, including furniture.

3. *Winooski Division.*—This division extends from Northfield to Burlington, 50 miles. The amount expended up to August 1st, was $514,321 42. The estimated cost of putting the road in running order to Montpelier is about $150,000; and from Montpelier to Waterbury is 180,000. Important changes of the line between Waterbury and Burlington, promising to save a heavy expenditure, have been recommended by the engineer, the estimates for which have not been completed. The directors are therefore unable to show, as they have desired to do, the probable total cost of the whole road, in the mode adopted as to the first divisions.

The sum of $214,321 42 expended on the Winooski division, between Northfield and Burlington, is exclusive of the proportion of incidental expenses incurred thereon; and the sum of one million to finish this division will probably approximate closely to the result.

This road, it is believed, will compare favorably with any other, thus far, both in point of cost and the character of the work: and judging from what has already been done upon the remaining portion of the line from Northfield to Burlington, the board entertains a confident expectation that the whole road will be completed at a cost within the sum of about $31,000 per mile. Such also is the opinion of the engineer.

It will be observed that a comparatively small sum is required to place the road in running order as far as Montpelier, and the reaching of that point must be considered of very great importance to the future income of the road. Nothing short of reaching lake Champlain, however, can realize the expectations of the friends of this enterprise, and your directors therefore deem it to be for the interest of the stockholders to press forward the whole work to completion as fast as the means of the company will permit.

The road, from White River village to Bethel, 25 miles, was opened for use on the 26th of June last. The gross receipts for passengers and freight from that date to the 20th inst., will appear from the following statement:

Weekly Receipts of Vermont Central Railroad, 1848.

	Passengers.	Freight.	Total.
June 26th to June 30th...	$200 92		$200 92
(Week ending.)			
July 8—(excursion 4th)..	615 93	$132 49	748 42
15	447 78	267 32	715 10
22	404 63	481 07	885 70
29	541 87	461 66	1003 53
Aug. 5	651 79	456 17	1007 96
12	757 79	303 00	1140 79
19	867 78	308 00	1174 78
26	987 39	395 00	1382 39
	5475 88	2883 17	8359 59

No season of the year probably could be more unfavorable for freight than that immediately succeeding the opening of this division of the road; and both as to business and travel, the present season fall short of any other for the last ten years. These facts, and the steady and rapid increase of receipts from week to week since the opening of the road, seem to warrant us for the belief that the results thus far even exceed the expectations of its most sanguine friends.

Finding upon your stock books reliable subscriptions to the amount of two millions of dollars, upon which $1,636,117 50 has been paid, the whole road was put under contract upon terms which time has shown to be more favorable than those of any other road then or since being constructed. This amount of capital was at the time deemed an ample guaranty for that step, and it was taken by the board in a confident expectation that the stockholders and the public would not hesitate to furnish all additional means required to carry through so important an enterprize. This expectation has been disappointed by an unusual depression in the financial affairs of the country, the injurious effects of which have fallen upon this enterprise, in common with all others of a like character, and compelled the board either to suspend operations, or resort to such measures as the practice of other corporations in like circumstances warrants for raising the funds required. Your board chose the last alternative, and in May last issued stock at $75 per share, not doubting that it would be taken and paid so far as to warrant a continuance of the work. The work was therefore continued until the first of the present month, when it was found that funds were required not only to proceed further with the work, but to discharge obligations already incurred. Other roads were unfortunately in the same condition, and were forced to issue stock or sell bonds at a still lower rate. Under these circumstances it was deemed necessary to issue stock at a rate which would secure the capital required and an uninterrupted prosecution of the work.—This step seemed to be required not only by the interest of those stockholders who are ready to make further investments, but of all

others, the security and value of whose stock is dependant upon the completion and successful operation of the road. Looking to the cost of the road and the business which it will command, immediately from the section through which it passes, and ultimately from its numerous railway connections with a vastly larger territory, your board renewedly expresses the conviction that the investment will be a highly valuable one, and commends the enterprise to your continued support. All which is respectfully submitted.

By order of the board,

CHARLES PAINE, *President.*

Northfield, August 30, 1848.

TREASURER'S REPORT.

Vermont Central Railroad Company in Account with Samuel H. Walley, Jr., Treasurer, up to July 1, 1848, *exclusive.*

	Dr
To bridging and masonry	$251,685 82
Coupons	5,766 00
Cars	6,370 00
Commissions	7,980 00
Engineering and surveying	63,273 01
Exchange	4 88
Grading	1,109,962 28
Incidental expenses	29,146 25
Superstructure	14,728 43
Incidentals of construction	12,299 67
Depots	16,030 85
Iron	372,156 31
Engines	7,325 00
Interest	95,368 57
Suspense account	14,097 04
Land damages	120,915 62
Notes receivable	74,797 36
Vt. and Canada railroad	1,049 03
Grand Junction railroad	100,000 00
Wharfing, etc	2,171 91
Fuel	239 08
Winooski turnpike	18,000 00
Bank of Montpelier on deposit	3,997 74
Woodstock bank, do	1,570 86
Farmers & Mech. bk. of Burlington, do.	852 76
Merchants' bank, do	968 87
C. Paine, president	279 16
	2,331,039 50
	Cr.
By amount received for assessments	1,662,211 50
Bonds payable	22,819 59
Contingent fund	44,341 01
Earnings of Winooski turnpike	3,421 00
Loan of '47	373,300 00
Notes payable	324,886 40
	2,331,039 50

SAMUEL H. WALLEY, Jr.,
Treas. Vt. C. R. R. Co.

Boston, July 1, 1848.

NORTHFIELD, VT., Aug. 31, 1848.

To the Stockholders of the Vt. Central Railroad Company:

GENTLEMEN:—The annual account which I have submitted gives you a clear statement of the amount of money which has been received from all sources, and the various objects of expenditure to 1st July 1848.

The charge to "*Coupons*" is for interest paid on the loan of 1847, payable in five years. "*Commissions*" is the allowance or discount made to purchasers of these bonds. Suspense account is principally the balance due from delinquents upon shares sold by order of the directors, on their account. This item is nominal, inasmuch as those stockholders, generally protected their shares.—Among the credits, the item of "Contingent fund" is for interest passed to the credit of stockholders, but not paid. The amount credited to assessments includes what had been received up to July 1, upon the old stock of one hundred dollars per share, and upon the new stock at seventy-five dollars per share.

If the accounts had been made up to the middle of the present month, they would have shown an increase in amount of assessments received, and of the temporary loan.—The amount thus received has been expended in payment of grading, masonry, iron, engines, and passenger and freight cars,—the last three items necessarily involving a large expenditure,—to enable the company to commence running a portion of road on their own account.

The receipts might, therefore, be stated thus:

Old stock, amount paid, .	$1,636,117 50
New stock, . . .	61,952 27
Bonds, payable in 1852, .	279,800 00
	$1,977,869 77
Temporary loan maturing in 1848 and 1849, . .	448,039 28
Due on demand, . .	52,257 35
	$2,478,166 40

I have heretofore stated that the capital stock was about two millions.

It now appears that there are 19,960 shares of old stock, upon all of which more or less has been paid. The balance unpaid will probably be nearly or quite all realized as the enterprise of building the road approaches its completion, inasmuch as it consists chiefly of shares partly paid, which are issuable to contractors, full paid, as the work progresses.

The general estimate of the cost of the road so far as I have ever been informed, since the building was undertaken upon the thorough plan which the directors adopted for the road, is $30,000 per mile. It now appears by a careful examination by the chief engineer, that after making ample allowances for furniture, etc., the cost of sixty-seven miles, from Windsor to Northfield, will slightly exceed the estimate; indeed, a large portion of the distance will be completed for a less sum than the average cost.

The year which has just closed has been one of extraordinary financial embarrassments and perplexity. Those who embarked in the enterprise of building this and other long and important roads, were almost to a man actuated either by motives of patriotism, in securing increased trade and commercial prosperity to Boston and vicinity, or by motives of self interest, in their desire to increase this trade and enhance the value of real estate, and render our commerce and navigation more extended and profitable.

The pecuniary reverses and contractions of the last year have operated with great severity upon these classes of our fellow citizens, and of course have for the time materially crippled the unfinished railroads in obtaining the means to push forward these enterprises to the point when they would begin to pay a profit upon the capital invested. In reference to your road in common with others, these remarks apply with great force. It would have been highly gratifying if we might have struggled on without offering any stock at less than par, until the value of the stock had been tested by the business of the road. This was found to be impracticable, and it is now to be hoped that the stockholders generally will be able to avail themselves of the favorable terms upon which the new stock is offered to them by the directors, and thus average the cost of their stock of seventy-five cents on the dollar.

Forty-two miles of road is to be in running order next week; ten more in a month, and eleven more in the course of the winter, which brings us to Montpelier. This point gained, I have no fears either to the speedy completion of the road to its termination at Burlington, or to the satisfactory report which we shall then receive from week to week, of the increasing amount of the earning of such portion of the road as will be used for the transportation of freight and passengers.

Very respectfully, your obt. servt.,

SAMUEL H. WALLEY, JR., Treas.

DIRECTORS AND OFFICERS FOR 1848–9.

Directors, Charles Paine, Northfield, Vt.; Robert G. Shaw, Boston, Mass.; John Peck, Burlington, Vt.; Daniel White, Charlestown, Mass.; Isaac Spaulding, Nashua, N. H.; Horatio Adams, Waltham, Mass.; and Isaiah Silver, Montpelier, Vt.

President, Charles Paine. Northfield, Vt.

Treasurer, Samuel H. Walley, jr., Roxbury, Mass. [*Office* 21 *Railroad Exchange, Boston.*]

Clerk, E. P. Walton, jr., Montpelier, Vt.

RESOLUTIONS.

On motion of J. A. Vail, Esq., of Montpelier,—

Resolved, That under the present situation of the company, we approve of the issue of new stock at $50 per share on the terms proposed, and recommend to the present stockholders to take the amount to which they are severally entitled.

On motion of president Wheeler of Burlington,—

Whereas the meeting of the stockholders of the Vermont Central railroad company, held at Northfield, Aug. 30, 1848, has called for an unusual examination of the past and present and prospective action of the board of directors, in relation to the general management of the affairs of the corporation, which being attended to, it is

Resolved, That the board of directors are entitled to our confidential regard, and our grateful acknowledgement for their past services, and our full confidence in their future labors.

Resolved, That Jacob Forster, S. S. Lewis, and Lucius B. Peck, esqs., late directors of this corporation, are entitled to our especial thanks for their disinterested, active and valuable services.

A true copy from the minutes of the stockholder's meeting.

E. P. WALTON, Jr., Clerk.

The following considerations are deserving of the attention of the stockholders:

The changes of the money market, which have rendered our creation of stock at 50 per cent. both expedient and necessary, forcibly reminds us of the like periods, in their fate, of our most successful railroads.

The New Bedford railroad, the success of which is complete, found itself, while in construction, under the necessity of asking of the state of Massachusetts, the loan of $100,000 state stock. But for this aid, the creation of new stock, at a very low rate, would naturally have been resorted to.

The Nashua and Lowell railroad, whose dividends have averaged 10 per cent., with a good reserve, was in so bad a position during its construction, that the aid of state stock was deemed by its managers and by the state, an indispensible resource.

We can remember the time when the stock of the following railroads stood thus:

Boston and Lowell . .	82 per cent.
Boston and Worcester .	65
Taunton Branch . . .	60
Boston and Maine, . .	50

And we can also mark the fact, that the stock of each of these railroads, now that they are in operation, maintain its price, considerably above par; and that each of them gives very good dividends.

We can remember the time, when the owners of the land and water power, at Amoskeag, offered in vain $100,000 bonus to whomever would build the Concord railroad; ay, the Concord railroad, whose stock stands erect at 22 per cent. advance, even in a great scarcity of money: and we can also remember that the owners of the locks and canals at Lowell, actually offered to pay and did pay, from their own funds, 16⅔ per cent, dividend to the owners of the Boston and Lowell railroad, as an indispensible bonus, to induce them to build the road.

And what shall we say of the Western railroad; of that great work which inspired the Emperor of Russia, in search of the best engineer for its mighty works, to select an American, as consulting engineer, after searching the world over, for the best practical talent? What shall we say of the Western railroad; of that great work, the signal success of which rekindled the hopes of the friends of internal imerovement all over the union? What shall we say of this great work? Would it not have been a disgrace to its projectors, and ruin to its stockholders, had not the unshrinking courage of some of its friends and the sagacity of the legislature of Massachusetts sustained it in the time of need? We saw its stock at 40 per cent., and we well remember that fortunes were made by those who had the forecast to come in and purchase, at the low rates: and who thus effected the double purpose of encouraging the work, at the time of its utmost need, and of increasing their own wealth, while promoting the public good.

Away with all gloomy forebodings. The stock of the Vermont Central railroad at 50 per cent. presents the like chance to fortune as did the stock of the Boston and Maine, Taunton Branch, Boston and Worcester, and Western railroads, at their lowest point of depression. The Vermont Central railroad passes, as do these other roads, through a thrifty yankee country, full of sagacious business men, who can three fold, and who will more than three fold the passengers and freight, such as may exist prior to the birth of the railroad. To him who calls in question this prediction, we will just state, that a pamphlet, signed by the men best acquainted with the business of Lowell, predicted, on the then existing passengers and freight, that the net income of the Boston and Lowell railroad would be $36,000 a year, while the net income actually exceeds $200,000 a year, at prices greatly reduced, both for the freight and for the passengers.

This plan of issuing stock to present stockholders at less than its par value is altogether preferable, in our opinion to the issuing of bonds, unless they can be guarateed by the state, and thus bring their par value. It will be to those who avail of their privilege of taking the new stock, the best investment they ever made—as the stock of this road will at an early day, pay *over* 7 per ct. on *par*.—[Ed. R. R. J.]

Treatment of Ores.

The London Mining Journal always contains valuable information in relation to the mining operations of Europe, and in every number there are articles equally useful to those engaged in mining operations in this country; and we should be gratified to give to all such, a place in this Journal, if we had the space. There are some articles, however, which are *entitled* to a place, under any circumstances, and therefore room must be made for them.

The following article on the "*Properties of Pure Iron*," and the "*Properties and composition of the Ores of Iron*," in different countries, as presented by John Mitchell, esq., may be useful, and therefore we give it a place.

Treatment of the Ores of Iron.—In discussing the treatment of the ores of this most valuable metal, it will be necessary to enter more minutely into the subject than with the ores of any other metal yet described in this series of papers. With this end in view, the author will give as far as is at present known, the composition of all the raw materials employed, as the ores, coal and limestone, together with the chief of the physical and chemical properties of the varieties of iron produced in commerce, as well as of absolutely pure iron.

Properties of Pure Iron.—The preparation of perfectly pure iron is a somewhat difficult matter. The following is the method employed by the author:—Pure peroxide of iron by precipitating a solution of perchloride of iron by an excess of amonia; the precipitate was then perfectly washed with distilled water, and dried out of contact of dust. The dried oxide was then placed in a tray, formed of platinium foil, and that again in a tube of hard glass, to which was adapted an apparatus, to furnish a current of dry hydrogen gas. The gas passed, for a short time, over the oxide, and then the tube was surrounded with burning charcoal, and the whole kept at a red heat, until no more aqueous vapour was given off—that being an indication of the complete decomposition of the oxide by the hydrogen gas; the burning charcoal was then removed, the current of gas still passing until the tube was perfectly cold. In effecting this reduction, great care must be taken to expose the oxide of iron to as intense a heat as the glass can bear, without falling out of shape. If the reduction takes place below a red heat, the metallic iron produced possesses the property of becoming incandescent on exposure to air, owing to rapid absorption of oxygen. A crucible is now to be prepared for the fusion of the spongy iron, by lining the inside with a thick coating of pure peroxide of iron—then as rapidly as possible, transferring the contents of the tube and covering the whole with more peroxide, so that the metalic iron is completely surrounded by that substance, and perfectly out of contact with the sides of the crucible, from which it might derive many impurities, after which a cover is to be luted on. The crucible is now to be placed on a piece of firebrick, in a good wind furnace, and the firo gradually raised, taking care to keep the fuel well about the crucible, and as it burns away to add more. It is best to add fresh coke before that in the furnace has sunk below the upper part of the pot—for by that method of feeding, the crucible always remains at the highest possible temperature. If the furnace is in good condition, about three hours is sufficient for the fusion of the metal; it is, however, better to allow it to remain in at least four hours, then remove it, and allow it to cool perfectly, when, on breaking the crucible, a button of perfectly pure iron will be obtained. Broling prepared a very nearly pure iron, by fusing the best commercial malleable iron in contact with oxide of iron: but the iron he procured must have retained aluminum, silicon, calcium, &c., and was, therefore, only an alloy, instead of a perfectly pure metal. It could not have contained carbon as that would have been removed by contact at a red heat with the oxide, a portion of which would have been reduced at its expense. The object of fusing the spongy iron in contact with pure oxide of iron, is to prevent the possibility of obtaining an alloy; for if it were fused in a naked crucible, the metallic iron would, by its great attraction for oxygen at such a high temperature, decompose the material of which the crucible was formed; and the liberated metals—as aluminum, calcium, as well as silicon—would have alloyed with the iron; this, evidently, is entirely prevented by the coating of oxide. The iron thus prepared was submitted to a most rigid and careful qualitative analysis, but not the slightest trace of any impurity could be detected; a given weight of it, converted into peroxide, gave very nearly the theoretical amount, so there could be no doubt of its absolute purity. Pure iron possesses an almost silvery whiteness, with a perceptible blueish tinge; it is much softer than the finest malleable iron, and seems less fusible. It has a kind of scaly, laminated fracture, with a distinct, although rather confused, appearance of crystallisation. Its specific gravi-

ty was found, from the mean of many careful experiments, to be 7·8443, which is very near that obtained by Broling—7·8439. It has a distinct, although weak, taste, and smell; it is more powerfully susceptible of magnetism than any other metal. Before entering into the properties of other classes of iron, as ordinary malleable and cast-iron, it will be proper to give the compositions of the raw materials employed in the manufacture.

Properties and Composition of the Ores of Iron.—Most of the accompanying analyses, not by the author, are collated from Berthier's *Traite des Essais*, Beudent's *Mineralogie*, Brard's *Mineralogie Appliques aux Arts*, and Karsten's *Metallurgie du Fer.*

Native Iron has been found at Canaan, in Connecticut, as also at Bedford, in Pennsylvania; that at Connecticut was met with in thin threads, in a quartz rock, or in layers, in micaceous schist; the structure is crystalline, and specific gravity about 6·72; it appeared to contain no foreign metal, but was mixed with graphite. The specimen from Bedford was malleable and crystalline, being made up of small rhombohedral prisms; the specific gravity was 7·337; it contained ·1400 of arsenic, and ·400 of graphite.

Meteoric Iron.—This generally occurs in isolated masses, and contains nickel, chromium, and sometimes cobalt: and Stromeyer has stated he has found molybdenum and copper. Prof. Pallas found a mass in Siberia possessing a vesicular structure, and containing crystals of crysolite; and Don Rubin de Celis found a mass, weighing 15 tons in the district of Chaco Gualamba, in South America. The following are some analyses of this species of iron:—

1. *Iron found in Siberia, by Pallas (John).* — Iron, 90·0; nickel, 7·5: cobalt 2·5=100.

2. *Iron from Santa Rosa, near Santa Fe de Bogota (M. M. Riviero and Boussingault).*—Iron, 91·2; nickel, 8·2; stony matters, ·3=99·7.

3. *Iron from Toluca near Mexico.*—Iron, 91·4; nickel, 8·6=100.

4. *Iron from Ellebogen (John).*—Iron, 87·2; nickel, 8·7; cobalt, 1·9. chromium and manganese, 1·0=100.

5. *Iron from Atacama (Turner).*—Iron, 93·40; nickel, 6·618; cobalt, ·535=100·553.

6. *Iron from Louisiana (Shepard).*—Iron, 90·02; nickel, 9·674=99·694.

7 and 8. *Iron from Brahin (Laugier).*—

	No. 7.	No. 8.
Iron	91·50	87·35
Nickel	1·50	2·50
Chromium	traces	·50
Sulphur	1·00	1·85
Silica	3·00	6·00
Magnesia	2·00	2·10
	99·00	100·30

9. *A Specimen from Siberia, (Klaproth).*—Iron, 98·6; nickel, 1·2=99·8

Oxygen Compounds of Iron—Peroxide of Iron—Specular Iron Ore—Micaceous Iron Ore.—This variety occurs in very large quantities, in the Isle of Elba, where it is said to have been worked for the last 3000 years. It occurs also in Saxony, Norway, Sweden, South America, and Siberia. It is met with in some of our Cornish mines, at Tavistock, in Devonshire, and Dunkeld, Perthshire. The stalatitic and fibrous varieties are employed to make burnishers, and the ochreous in painting, known as red ochre; the more argillaceous form red crayons.

Red Hæmatite is another form of peroxide of iron; is found in large quantities, in the Hartz, Saxony, Bohemia, at Ulverstone, in Lancashire, and many parts of England and Scotland.

The composition of chemically pure peroxide of iron is—iron. 69·34; oxygen, 20·66 =100; but the best crystallised varieties I have found to contain traces of phosphoric acid, and sometimes considerable quantities of manganese, the purest containing not more than 99 per cent. of peroxide. The following analysis will show how much this variety of ore differs in composition; and all prove that the whole of them cannot be successfully submitted to the same treatment in the furnace. Before, however, entering into the analysis, it will be as well to mention another important branch of this family—viz: the brown, or hydrated hæmatites, also known under the name of hydrous oxide of iron, limonite, and brush ore. This variety also occurs in many places.

1. *Micaceous Ore from Mount St. Bernard.* — Peroxide of iron, 58·0; silica, 42·0=100.

2. *Compact Ore from the Department of the Moselle.*—Peroxide of iron, 99·0; oxide of manganese, ·4; clay, ·4=99·8. This specimen was nearly pure.

3. *Specimen of Crystallised Ore by the Author.*—Peroxide of iron, 99·32; phosphoric acid, ·31; oxide of manganese, 1·8; alumina, ·17=99·98.

4. *Ferruginous Schist from Cherbourg.*—Peroxide of iron, 73·8; oxide of manganese, 3·4; silica, 12·8; alumina, 2·4; carbonate of lime, 6·0=98·4.

5. *Granular Ore from Bohemia.*—Peroxide of iron, 62·0; oxide of manganese, 9·0: silica, 21·0; alumina, 4·8; water, 3·2=100.

6. *Calcareous Oolitic Oxide from Monte de Lazac.*—Peroxide of iron, 44·0; clay, 6·0; carbonate of lime, 50·0=100.

7. *Compact Ore from La Voulte (Ardech).*—Peroxide of iron, 66·0; oxide of manganese, 2·5; silica, 16·8; alumina, 12·0; carbonate of lime, 4·4; carbonate of magnesia, 3·7; water, 2·8=98·2.

8. *Specimen of Hæmatite, in fine Crystalline Scales, which when rubbed between the fingers, produced a stain like Plumbago: by the Author, (locality unknown).*—Peroxide of iron, 83·610; silica, 11·421; alumina, 2·184; lime, 1·206; magnesia, ·280; phosphoric acid, ·628; potash ·142; soda, ·098; oxide of magnese, ·317=99·886.

9. *Specimen of Ore from Fouta-Diallon in Upper Senegal.*—Peroxide of iron, 77·2; silica, 2·8; water, 11·4; oxide of chromium and titanium, trace=99·6.

11. *Ore from Stirling, Massachusetts (Thomson).*—Peroxide of iron, 75·5; oxide of manganese, 22·5; water, ·4; oxide of chromium and titanium, 1·2=99·6.

12. *Ore from the neighborhood of Ulverstone, by the Author.*—Peroxide of iron, 70·614; silica, 27·908; magnesia, ·189; phosphoric acid, ·081; lime, ·214; alumina, ·510; sulphuric acid, ·400; potash, soda and manganese, traces=99·914.

13. *An Ore from Cornwall by the Author.*—Peroxide of iron, 60·00; alumina, 7·20; silicia, 22·00; lime, 7·10; magnesia, 3·07; arsenious acid, ·13; oxide of manganese, ·31; potash and soda, traces=99·81.

14. *Another Specimen from Cornwall, by the Author.*—Peroxide of iron, 54·12; silica, 24·81; magnesia, 5·20; lime, 7·14; alumina, 7·42; phosphoric acid, ·68; potash and soda, ·42; tin, zinc and manganese, traces=99·79.

Hydrated Hæmatites.—1. *Ore from Mandorf by Mœllinghoff.*—Peroxide of iron, 60·0; water, 15·0; silica, 12·0; alumina, 13·0=100.

2. *Specimen from Restormel Mine, near Lostwithiel, by Lieut.-Col. P. J. Yorke.*—Silicia, 28; water, 10·07; peroxide of iron, 89·55; oxide of manganese, ·6=100·06.

3. *Another Specimen from Cornwall, by the same Analyst.*—Silica, 2·42; water, 14·28; peroxide of iron, 82·16; sesquoxide of manganese, 1·18; alumina and tin, traces=99·99.

4. *Another Specimen by the same Analyst, from Wansiedel.*—Silica, 1·46; water, 12·42; peroxide of iron, 85·80; sesquioxide of manganese, 1·30=100·98.

5. *Ore from Longwy (Berthier).*—Peroxide of iron, 85·1; water, 12·1; clay, 2·7=100. Iron produced by assay, 61·5 per cent.

6. *Ore from Rancie Arriege (Berthier).*—Peroxide of iron, 82·2; oxide of manganese, 3·6; water, 12·2; clay, 2·0=100.

7. *Ore from Penne (Vanquelin).*—Oxide of iron, 48·0; water, 9·0: silica, 15·0; alumina, 31·0=100.

8. *Granular Ore from Hægau (Klaproth).* Perioxide of iron, 52·0; water, 14·5; oxide of manganese, 1·0; silica, 23·0; alumina, 6·5=98.

9. *Granular Ore from Berri (d'Aubuisson).*—Peroxide of iron, 70·0; water, 15·0; silica, 6·0; alumina, 7·0; oxide of manganese, trace=98.

10. *Specimen of Ore by the Author.*—Peroxide of iron, 85·645; protoxide of iron, 1·820; magnesia, ·084; alumina, ·230; potash, ·384; soda, 157; silica, 2·343; water, 9·365; oxide of manganese, traces=99·998.

11. *Compact Hydrate from Bendorf (right bank of the Rhine).*—Peroxide of iron, 67·0; oxide of manganese, 1·8; water, 10·2; silica, 18·6=97·6. Iron obtained by assay, 47.

12. *Compact Hydrate from Pennsylvania.*—Peroxide of iron, 51·2; oxide of manganese, 2·8; water, 10·0; alumina, 2·0; silica 34·0=100. Iron produced by assay, 36·5.

13. *Ore from Vandenesse (Department de la Nievre).*—Peroxide of iron, 50·0; water, 7·0; silica, 42·5=99·5.

14. *Ore from Faverolle (Corieze).*—Peroxide of iron, 76·3; oxide of manganese, ·3;

water, 12·4; phosphoric acid, 1·4; clay, 9·6=100. Iron obtained by assay.

The City of Cairo--Illinois--The Central Illinois Railroad.

We have often heard it wondered, "*why* there is not *now* a city at the place called *Cairo*, at the junction of the *Ohio* and *Mississippi* rivers. It is, it seems to us, without knowing its *local disadvantages*, the place, of all other *inland* positions for a large city. The Missouri, the Mississippi, the Ohio, the Tennessee, the Wabash, and the Illinois, all flow and bear their burthens to that point—where the *Father* of waters receives them, and bears them a *thousand* miles on its bosom to the ocean. Cairo is the "half-way house," at which *all* who pass should stop—and so they will in time to come.

The following letter, from the New York Courier and Enquirer, will, perhaps, be interesting to many.

Cairo, Ill., July 1, 1848.

Messrs Editors.—I arrived at this point a few days since, and as I depart to-morrow, shall at once seize the occasion to comply with the request made by yourselves to write something in relation to the present appearance of Cairo and its prospects for becoming a great commercial and manufacturing emporium. The stranger on his arrival here, might be unfavorably impressed with its appearance, at least I judge so from my own feelings. The large hotel at the point, though roomy, and as I understand, very well kept, presents from the Mississippi river rather an unsightly appearance, as the back part of the building only can be seen: and the other houses in the immediate neighborhood, are not calculated to create a favorable impression. Yet on walking about the vicinity of the confluence of the two rivers and around the levee, the question at once arises to the mind of a stranger—why is there not now at this point a city? No practical man, after the proper examination, can perceive a single disadvantage that would be a serious obstacle to the growth of Cairo, or that might not be overcome by the smallest exercise of energy and expenditure of capital. The levees surrounding Cairo are substantially built, and calculated with ordinary care and repair, to entirely protect the town from all inundation. The Ohio levee runs from the point about a mile up that river, to what is called Upper Cairo, and is graded so as to make an exellent wharf. When paved it will probably be the finest wharf in the country. The Central railroad depot is at Upper Cairo, from which point the road has been graded for about thirty or forty miles, and is ready for the iron. This portion of the levee, with that on the Mississippi river, is very wide and must have cost an enormous sum. The levee uniting the two, and called the "cross levee," while it is not so wide, is sufficiently strong to prevent the passage of any floods which might overflow the banks of the river.

As you are aware, the great objection to this point as the site *in prospect* of a great city, has been its inundation; and at this time it is the general belief among those who have never visited the place, that it is utterly impossible to protect it; taking it for granted that if such were not the fact there would be at this time a large city here. I confess that even the representations to the contrary, coming from the highest sources too, had not entirely dispelled this idea from my mind previous to my arrival at Cairo. But after a careful and impartial examination, and with the proper knowledge too, from my business, of the manner in which such investigation should be prosecuted, I most fully concur with the written and verbal reports of other engineers who have visited Cairo, for the purpose of examining its advantages and disadvantages, in believing the expense and labor of entirely protecting it from the possibility of inundations as too insignificant to be thought of as an objection to the site. I could very easily prove this to any one, however prejudiced he might be.

There has been another objection urged to Cairo, even more ridiculous, from the facts of the case than the other; and that is its sickness. Having just come from Springfield, Illinois, in the interior of the state, I was at least prepared to find Cairo more healthy than that town, or others in its neighborhood from the representations of the citizens of Springfield, themselves. But since my arrival I have conversed with the citizens of this and other towns in the vicinity, and with physicians, and am perfectly satisfied that there is no healthier place in this region of country. There is a constant breeze to carry off all miasmata arising from the rivers and at this time there are no ponds here to swelter in a summer sun and nurse disease.

There are at Lower Cairo several excellent stores which are supported by the country around, and in a handsome manner. The fine business they are doing, illustrate more than all words could the character of the country back. I have seen in this portion of southern Illinois, as fine farms as in any other district of the state. The character of the people has changed much within the last few years, and now the inhabitants are known as an industrious and well behaved class of people. They have excellent land, as fine timber as there is in the country, a good climate, and in fact everything generally demanded to suit the wants of emigrants. At this portion of Cairo there are also three large wharf boats; which are no more nor less than large steamers with their engines, &c., taken out. On these the traveller can be made comfortable as at a hotel. Boat stores are sold, and the principal re-shipping business of the place done on them. Besides these there are a number of trading boats, bakeries, &c., at the wharf. Now the question arises with the stranger, why is it, if Cairo, be not subject to inundations, that all this business is not done in houses? Simply because no one can get the houses to do it in. My inquiries, in connection with your own, told me that before I ever visited Cairo to stay a day.

The property being owned by a company, they are not yet prepared to dispose of lots, but I suppose will be this summer. From the number of capitalists who have stopped at Cairo to purchase, these lots will meet with ready sale, and a city will spring up here more rapidly I am convinced, than any yet presented in the West. This, then is the reason why there is not a large city at the confluence of the Ohio and Mississippi rivers at this time; because the public have not been able to purchase lots to build upon. The company will not sell till they can give a clear title to the property.

The advantages of this point for a great commercial and manufacturing city, are too familiar to be enlarged upon here. The number is now becoming daily fewer of those who believe, that with all the great advantages possessed by Cairo, the disadvantages must overrule them. Its situation, at the junction of the two greatest rivers of the mighty streams of the West, and at the head of Mississippi navigation, so far as the larger steamboats are concerned, at least a great portion of the year; with thousands of miles of river navigation settling at its wharf—midway between the Gulf and the Lakes—the great re-shipping point of the Mississippi river—the southern terminus of the great Central railroad, traversing the whole state, and connecting the lower Mississippi with the Lakes, thence running from a point of its connection to Galena or the upper Mississippi—these and other advantages point it out as *the* commercial city of the West. And the fact that iron can be obtained from the Tennessee river at probably 25 per cent. cheaper than at Pittsburg, and that coal of the best quality may be obtained in this region, there is no doubt but it must be a great manufacturing city.

I confess to some enthusiasm in speaking of Cairo, although no one would ever have accused me of it before this visit to the point. The Central railroad alone would make a city of Cairo were its disadvantages a hundred-fold greater. The bill asking a donation of land to assist in the roads completion, having passed the Senate by a large majority the citizens here have no doubt ot its passage through the House. I hope it may not in manner be laid over till next session. This road will open the vast interior of the state to the markets, provide a way for getting timber to the interior, be a great means of national defence, and afford a thoroughfare of trade and travel that will benefit the whole country.

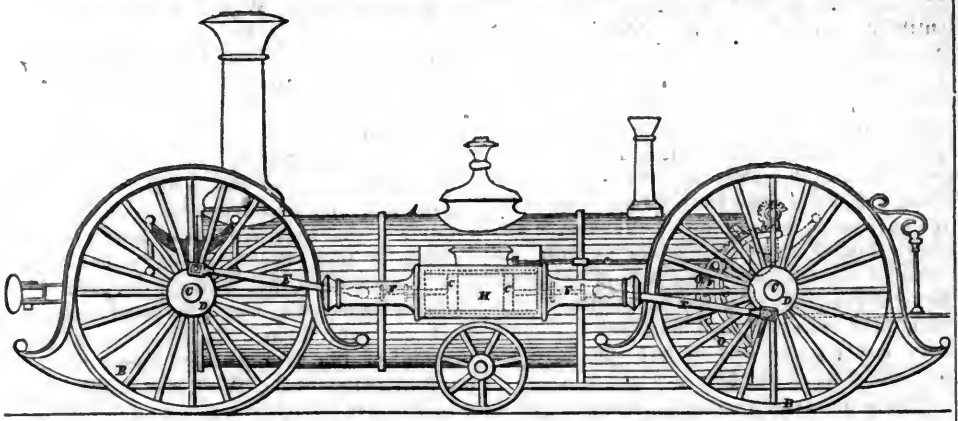
There is a large and beautiful paper printed at Cairo, called the "Cairo Delta," which, from the vigor of its editorials, and the untiring industry of its editor in collecting and promulgating news, making up markets, and publishing everything of local interest, is gaining an influence rarely attained by a "country sheet." By the list of the steamboat arrivals, which you may find published in the copies of the Delta I send, you will perceive that an immense number of boats are continually stopping here—more than at any other point in the West. There are regular packets running from this point to St. Louis and Louisville.

My letter has already exceeded all proper limits, yet I have not said the half I wish to say.

Yours, respectfully,

W. P. C.

RITCHIE'S IMPROVEMENTS IN LOCOMOTIVE ENGINES.



[*Specification of Patent granted to Charles Ritchie of Aberdeen, in the shire of Aberdeen and kingdom of Scotland, engineer, for certain improvements in locomotive engines. Patent dated March* 2, 1848.]

This invention consists in, and has reference to, certain improvements in locomotive and other engines, carried into practical effect by the means, or through the agency, of certain new, or improved, mechanical combinations and arrangements, having for their object the simplification of the construction, and the augmentation of the efficiency, of such engines.

The first part consists in the application of a cylinder, or cylinders, with two distinct and separate pistons in each cylinder, to which are affixed piston-rods, for imparting motion to the cranked axles and driving wheels fixed thereon, whereby the the rocking, or oscillating, motion attending locomotive engines, as hitherto constructed, is considerably diminished, and greater steadiness of motion obtained, as, by this arrangement, the momentum of one piston, together with its cranks, and other connections, is at all times exactly balanced, or nearly so, by that of the other, in consequence of the approaching or receding of the pistons to and from each other being always simultaneous. The second part relates to an improved mode of working the slide-valves of locomotive and other engines, by rendering the eccentric, which imparts motion thereto, available for the purpose of reversing the engine. The third part relates to an improved valve for regulating the admission of steam, or other motive power, to the working cylinders of locomotive and other engines, and to improvements in safety-valves, to be applied to the boilers of engines, or other reservoirs of power. The fourth relates to an improved antiprimer, or steam-collector, to be applied to the boilers of steam-engines. The fifth part relates to an improved self-acting feeding apparatus, for supplying water to the boilers of steam-engines. And the sixth and last part consists in the application to the wheels of locomotive engines of an improved guard, or safety-break.

The drawing exhibits a side elevation of a locomotive engine, constructed according to this invention. A marks the boiler of the engine; B, the driving wheels fixed upon the crank axles, C; the boss, or nave, D, of each of such wheels serving as the crank, to which one end of a connecting-rod, E, is attached by a crank-pin, or stud, *a*, secured to the said nave, and the opposite end of the rod, E, is connected to the piston-rod, F, in the usual way of forming such connections. G, G, two pistons, to which are attached the rods, F, F—the said pistons working steam tight in the cylinder, H, by means of metallic, or other packing.

The cylinders, H, are securely fixed to each side of the boiler, A, in any convenient manner. Instead of having the fixed cylinder and connecting-rods, as above described, oscillating cylinders may be used, with their piston-rods connected directly with the crank-axle; or where fixed cylinders are used, and space is an object, the connecting-rods, E, E, may be dispensed with, by attaching to the piston-rods a cross frame, in which there is a slot formed, into which a crank-pin, or stud, takes. The outer end of the frame works through a guide-hole, fixed to the side of the engine, and thus the rectilinear motion of the piston-rods imparts rotary motion to the crank-axle and driving-wheels fixed thereon. Now, as either of the methods will occcupy less space than that exhibited by the drawing, it will appear evident, that these arrangements are more particularly intended to be used for short engines, in which there is not sufficient distance between the axles to admit of the adoption of the other arrangement; or, instead of one long cylinder, two short cylinders may be employed, each having a separate piston—the bottoms of the cylinders being made to abutt against each other, are securely connected together in that position. The steam or other motive-power, may be admitted through the ports, or passages, into the cylinder by means of a common slide, which may be actuated in the following manner:—Upon the hindermost driving-axle is fixed an eccentric, upon which is a cam, of the following peculiar construction:—Two rods are fixed to, or formed upon, the said cam; or it may be composed of one double-gabbed rod, one gab being employed for effecting the backward, and the forward, motion of the slide-valve, through the intervention of a double lever, which has its fulcrum upon a stud, fixed to the side of the boiler, as shown by the drawing, and this lever is connected to the slide-valve by a rod, *c*. The length of this lever, as also the angle of inclination of the parts, O, O, should be in accordance with the lead of the valve—the one or other of the inclined parts, O, being caused to act upon the lever by a hand lever, connected to the said cam in any convenient manner, so as to enable the engine-driver to start, reverse, and stop the engine readily, by the same eccentric which gives motion to the slide valve. By making the end of the valve rod moveable, as in a slot in the lever, P, the steam may be worked expansively at pleasure. Improved spring safety valves are exhibited by other drawings attached to this specification, from which it will appear there are two forms of construction, showing a valve with a conical shaped seat, being a flat valve, and constructed with a flange, which the inventor terms a compensation flange—such flange being let into the seat vertically, about one-sixth of the diameter of the steam-way in the valve seat. This valve is weighted by a helical spring, of sufficient power, according to the required pressure of the steam: and when it is intended to be used as a reserve safety valve, the spring is to be placed around the part of the stem below the valve—that is to say, within the boiler. The advantage of this form of construction of valve over the ordinary valve is as follows:—As soon as the pressure of the steam rises the valve from its seat, the flange, being exposed to the pressure of the steam, presents an increased surface, which compensates for the increasing resistance of the helicle spring until the valve has been raised to a height equal to the area of the steam way, when it allows the steam or vapour, to escape freely. When not intended as a reserve safety valve, this valve may have the spring placed above it. Another valve, which is called an indicator safety valve, is exhibited, consisting of a piston, which is fitted into a tube, having a spring attached to it—lateral openings being made in the tube, to allow the steam to escape when the piston becomes raised above such openings, and by making the said tube moveable within another one, the "blowing off" point may be varied at pleasure. An index, like that of a barometer, may then be attached to the stem or rod, of the piston, and will indicate very slight variations of pressure. A regulating valve is attached, the construction and arrangement of which is as follows:—There is a short socket pipe, having two conical valve seats formed therein, into which the valves fit; such valves being connected together, or formed upon one stem, into which one end of a rod is screwed, or otherwise made fast, and the opposite end of the said rod attached to an eccentric spindle, working through a stuffing box, to which a hand lever is fixed; such lever and rod being for the purpose of opening or closing, the regualtor valve at pleasure.

The anti primer before mentioned is formed in the following manner: Two distinct, and separate plates of sheet metal, the outer edges of which are securely fixed to the inside of the boiler, by rivetting, or otherwise, the said plates being inclined towards the centre of the boiler, care being taken to leave

a space between the inner edges of the two plates, so as to reserve a channel lengthwise of the boiler, for the passage of steam into the steam chamber thus formed, and within, or in connnection with which the regulating valve is situate the steam pipes which lead to the cylinders being connected thereto. Instead of forming the antiprimer of two separate strips, or pieces of metal, the same result may be obtained, by forming it of one strip, or piece of metal, of the shape known; the said plate being pierced with an infinite number of small holes. The construction and arrangement of the feeding apparatus are as follows:—There is a metal cylinder, which should be bored perfectly true and cylindrical, fitted with a piston, the rod of such piston forming the plunger, or ram, of the cold water pump, the barrel of which serves as a compound gland for the stuffing box of the cylinder and pump barrel. The slide valve, which may be made to cover or uncover the ports, or passages, in the cylinder, by the opposite sides of the piston coming into contact with the levers, which are connected to the slide valve by a rod or rods. There are spherical valves (the seats of which are knife-edged, formed within the spherical flange pieces, which have openings for establishing a communication between the tender, the pump barrel, and ihe steam boiler, as exhibited. The *modus operandi* of this feeding apparatus is as follows: Upon steam being admitted from the boiler into the cylinder, through the steam port, or passage, the piston will be acted upon, and the ram, or plunger, be withdrawn, the water from the tenders will raise the valve, and enter the barrel, to supply the space previously occupied by the plunger; or ram; by this time the piston will have acted upon the lever, so as to cause the slide valve to uncover the port, or passage, and cover the port or passage, P^1, thereby allowing the steam on the other side of the piston to escape through the exhaust pipe; the piston will now be impelled in a contrary direction, and the plunger, or ram, entering the barrel, will cause the one valve to be closed, and the other to be opened by pressure of the water therein, which as the plunger, or ram, advances, will be forced into the boiler, to supply the deficiency of that water which had been converted into steam; R^1, R^1, mark wheel guards, or safety breaks, which are each composed of a strong band, or strap of iron, or other substance, which is placed like a splasher over the wheel to be protected, the inner surface of the said guard, or break, is formed of the converse shape to that of the tyre, and fixed securely to the framing, or boiler, or both, as near to the top of the wheel as the play of ths bearing springs will admit of, and as near to the back of each wheel, as possible, without touching it.

To each side of the engine a bar of iron is placed, and securely fixed in a longitudinal direction; such arrangement being intended to preserve such wheels in a vertical position and thereby support the engine, in the event of the axles breaking, and to operate at the same time as a break, to retard the motion of the engine in the event of any such accident. Another improvement in locomotive engines consists in arranging that part of the boiler known as the firebox, in such manner that the height of the water in this part of the boiler shall at all times be at a proper level, which is effected by what is called an anti-fluctuator, which is a separate partition plate across the water space, or an extension of the plate to which the tubes are fixed as shown; and, by causing the water to be fed to the boiler at that part which surrounds the fire, it will appear evident that the barrel of the boiler can only receive its supply of water from that which overflows the said partition plate. Having described the nature of this invention, the patentee remarks, that he does not claim the exclusive use of any of the separate parts above mentioned and referred to, when considered, *per se*, and apart from the said invention, as hereinbefore set forth and described. What he does claim being—1. The use and application to locomotives and other engines of one or more cylinders, having two distinct and separate pistons working therein; such cylinder, or cylinders, being placed between two driving or crank axles, to which they impart motion; and further, the mechanical combinations and arrangements employed for working such cylinder, or cylinders, by one slide valve, as hereinbefore particularly set forth (and represented at *figs.* 1, 2, 3, 4, 5, of the drawings annexed to specification). 2. The use and application to locomotive and other engines, of two eccentric rods, or one double gabbed rod, in connection with one common eccentric, for the purpose of effecting the reversing motion of the engine, as hereinbefore particularly described (and represented at *fig* 5. of the drawings annexed to specification). 3. The use and application to locomotive engines of a regulator, composed of two valves, which may be either conical or flat, as hereinbefore particularly described (and represented at *figs.* 2 and 7 of the drawing, annexed to specification). 4. The construction of safety valves with a flange termed a compensation flange, without regard to the manner in which such valves may be weighted, as hereinbefore particularly described (and represented at *fig.* 7 of the drawings annexed to specification). 5. The use and application to locomotive and other engines of an indicator safety valve, as hereinbefore described and exhibited at *fig.* 2 of the drawings annexed to specification). 6. The use and application to the boilers of locomotive and other engines of an antiprimer, or steam collector, of the construction hereinbefore particularly described (and exhibited at *figs.* 2 and 3 of the drawings annexed to specification). 7. The use and application to locomotive and other engines of a self-acting feeding apparatus, distinct and separate from the working parts of engines, as hereinbefore particularly described (and represented at *figs.* 2 and 6 of the drawings annexed to specification). 8. The use and application to the wheels of locomotive engines of a wheel guard, or safety-break of the construction before described (and exhibited at *figs.* 1, 2, 3, 4, of the drawings annexed to specification). 9. The use and application to the boilers of locomotive and other engines, where tubular boilers are used of a partition plate, so as to preserve the water in that part of the boiler above the fire at a proper level, and also to prevent the general fluctuation. as hereinbefore particularly described and set forth (and represented at *fig.* 2 of the drawings annexed to specification).

Patent office and Designs Registry
210, *Strand, Sept* 4.

Tubular Bidges--Conway and Britania.

A paragraph in our last London Mining Journal says that,—

"The report of Mr. R. Stephenson, presented to the meeting of the Chester and Holyhead railway, on Wednesday last, stated that the constructian of the second tube of the Conway bridge is far advanced, and there is no doubt it will be ready for removal by the middle of October. The pontoons have been strengthened, the capstans re erected, and every other arrangement in a forward state for its erection. About three-fourths of the masonry of the Britannia bridge have been completed; and, taking the progress now making as the guide, it is calculated that the first tube will be ready for lifting to its place in the course of next March or April. The iron work at the Britannia bridge has progressed even more rapidly than was expected, and the four large tubes are just approaching completion. The whole of the central portion of the tubes is finished, and the castings at the ends are now being inserted. The scaffolding for the end tubes on the Anglesea side is now complete, and a large proportion of the iron is already punched for their immediate commencement. The scaffolding necessary for the tubes on the Carnarvon side will be erected immediately, to open the line throughout as rapidly as possible. Every arrangement is being made for floating the tubes as soon as the masonry is ready. The works throughout the whole of the line are standing in the most satisfactory manner. The daily passage of heavy trains through the Conway tube for four months, together with a series of careful observations as to the effects produced, have completely established the correctness of the views upon which the designs for this and the Britannia were based. The cost of these structures has very much exceeded what was originally calculated upon: on reconsidering, however, the whole subject, Mr. Stepenson is satisfied that the method which has been adopted is certainly the most eligible, if not the only practical one.

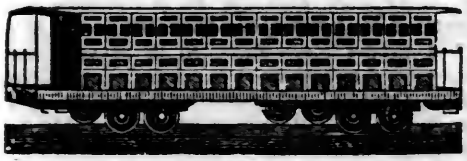
RAILROAD IRON.

THE MOUNT SAVAGE IRON WORKS, Allegheny Conuty, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron.—Communications addressed to either of the subscribers will have prompt attention.

J. F. WINSLOW, President
Mount Savage Iron Co., Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.

November 6, 1848.

CAR MANUFACTORY,
CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.
Cincinnati, Ohio, October 2, 1848. 41tf

RAILROAD IRON.

THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to
COOPER & HEWITT, Agents,
17 Burling Slip, New York.
October 30th, 1848.

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.
☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

☞ NOTICE. ☜
RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.
1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, Jr.,
Secretary of the Convention.

JAMES LAURIE, *Civil Engineer.*
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures
October 14, 1848. 6m*

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by
DAVIS, BROOKS & CO.,
68 Broad street.
New York, Sept. 16. 1848, 39tf
Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.
G. M. KNEVITT, Agent,
78 Broad St., New York.
September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS EOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.
ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
y25 Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON—SHEET IRON—BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

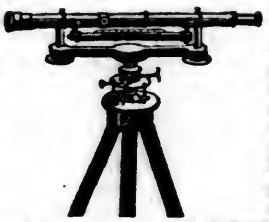
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

RAILROAD IRON.

THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.
New York, October 25, 1848. tf

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufactore their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 1tu

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE

Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH

for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

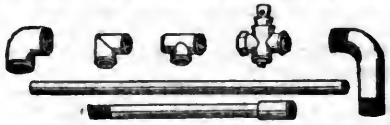
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee
G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

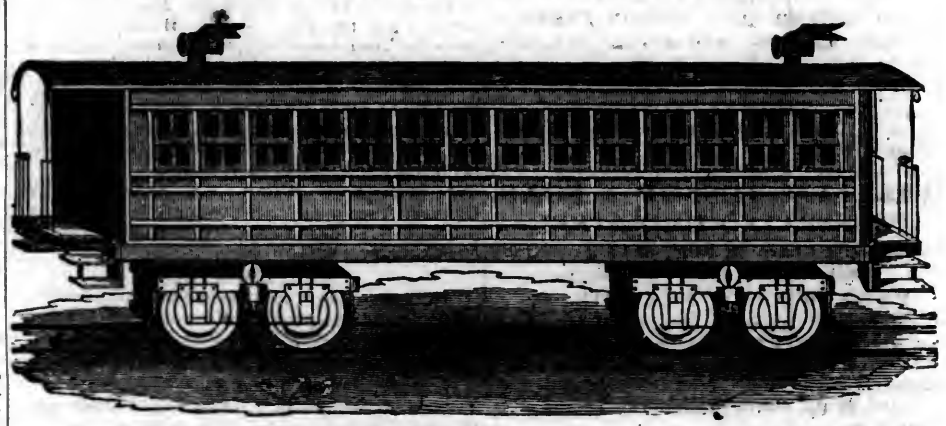
LAWRENCE'S ROSENDALE HYDRAULIC CEMENT.

This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.
REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No 79 Water St., New York.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartsbrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.





Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

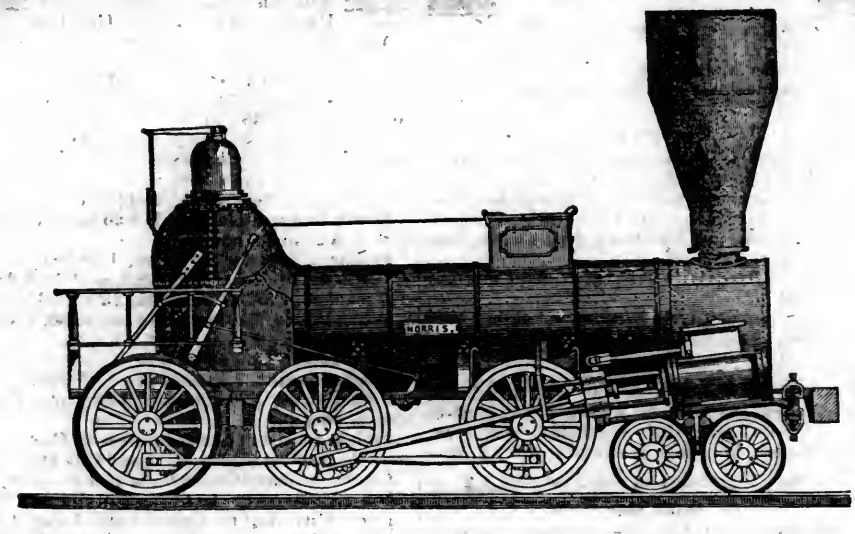
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.
FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.
Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7¼ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper. Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons..... $5 00 per hhd.
On molasses and oil..... $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
,y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

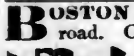
The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the


Trains will run as follows:


Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after


Tuesday, June 1st, 1847, the cars


will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

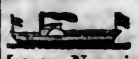
Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

NORWICH AND WORCESTER RAILRoad. Winter Arrangement.—1848.


Accommodation Trains


daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 2½ p. m.

Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

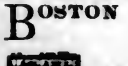
New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Ja., Sup't.

BOSTON AND MAINE RAILROAD.


Winter Arrangement.


Commencing Nov. 13, 1848.

Trains leave Boston as follows, viz: For Portland at 7 A.M. and 2½ P.M.

Great Falls at 7 a.m., 2½ and 3½ p.m.

Haverhill at 7 and 11½ a.m., 2½, 3½ and 5 p.m.

Lawrence, at 7, 9, 11½ a.m., 2½, 3½, 5, 6 p.m.

Reading 7, 9 & 11½ a.m., 2½, 3½, 5, 6, 7½ & 10 p.m

Trains leave for Boston as follows, viz: From Portland at 7½ a.m., and 3 p.m.

Great Falls at 6½ and 9½ a.m., and 4½ p.m.

Haverhill at 7, 8½ and 11 a.m., 3 and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6½, 7, 7½, 9½, 11½ a.m., 1½, 3½, 7½, 9, p.m.

MEDFORD BRANCH TRAINS.

From Medford at 6½, 8, 10½, a.m., 2, 4, 6, 9 p.m.

From Boston at 7½, 9½ a. m., 12½ 2½, 5½, 6½, 10 p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, Nov. 7, 1848.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NEW YORK & PHILADELPHIA. NEW JERSEY RAILROAD & TRANSPORTATION CO.—

6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11½ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

125 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

On Weight Goods—	To Atlanta.	To Oothcaloga.
Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St., at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

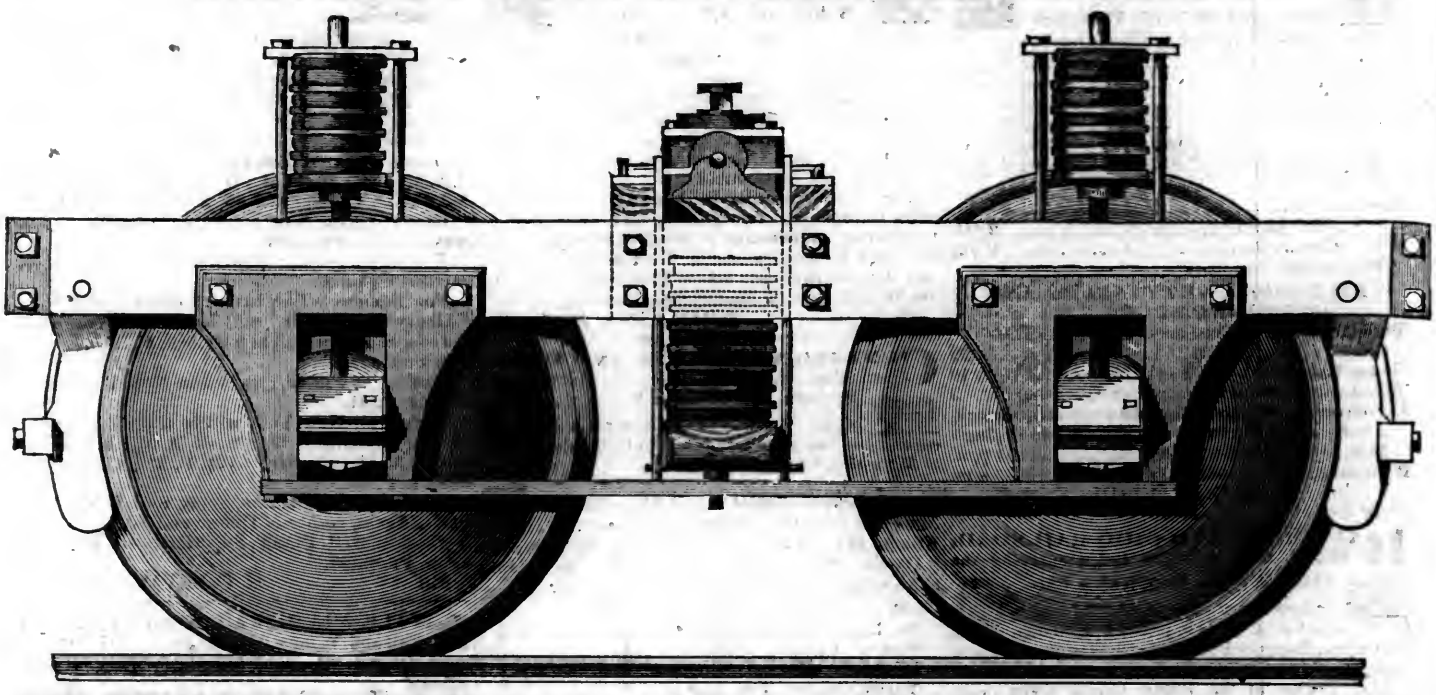
Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FOWLER M. RAY'S

METALLIC INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation on its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 49.] SATURDAY, DECEMBER 2, 1848 [WHOLE No. 660, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, December, 2, 1848.

Worcester and Nashua Road.

☞ The Worcester and Nashua road will soon be opened to the junction with the Fitchburg road, and the extension to Nashua will be completed by the 1st of January. There will then be a direct railroad connection between Allyn's Point and Portland, which will enable the trade of the New England States to reach New York without passing via Boston. This line effects a connection between the Norwich and Worcester and the Fitchburg, the Concord, the Cheshire, the Vermont and Massachusetts, Boston and Lowell, Maine—and indeed the whole net work of New England roads: making a large area of country tributary to New York, the trade of which has formerly centered at Boston.

Disappearance of Stage Coaches.

The Lincolnshire Chronicle, speaking of the *Tally Ho* coach, says—"This coach, so long known on the road between Lincoln and Stamford, is we hear to cease running on Saturday next; and as the Gt. Northern loop line, and the Grimsby and Lincoln line, will be opened in a short time, we much doubt whether we shall have a single coach out of Lincoln a few weeks hence."

The same journal says—"On Friday last the first locomotive engine and railway carriages made their appearance at Brigg, to convey the Earl and Countess of Yarborough to New Holland, which distance was accomplished in half an hour. Since then the engine has been up and down several times, but the line is not yet opened to the public. It is rumoured that the opening will take place at the beginning of next month."

Gutta Percha Tubes.

The London Mining Journal says that "this novel material, so famed for its utility, has lately risen to an extraordinary elevation in the metropolis, having reached even to the top of the monument, from whence visiters to that noted column may look upon a gutta percha tube 190 feet in length, 3 inches in diameter, and ¼ inch thick. This tube passes up the centre of the monument from its base to the gallery, at which point it is upheld by a flange, also made of gutta percha. It is intended for the conveyance of water, and is, we understand, highly approved by the civic authorities, being light in weight and economic in price. The above adaptation of gutta percha affords another striking instance of its very general applicability."

Rider's Iron Bridge.

☞ We wish to call the attention of our readers to the advertisement of "Rider's Patent Iron Bridge" which appears in this number of the Journal.

There is, perhaps, no department of railroad engineering, which requires, and is so susceptible of improvement, as the construction of bridges, and if the invention of Mr. Rider meets the exigency—as we have reason to believe it does—it should be universally adopted on all our great lines of railroad.

True economy demands that bridges, so expensive in their structure, should be composed of more durable material than wood, which, under the most favorable circumstances, decays in a short period, requiring in all cases repairs within the first ten years—and entire renewal in fifteen or, at most, twenty years. Few travellers cross a wooden railroad bridge after the lapse of a few years from the date of its erection, without a certain feeling of insecurity, arising from a knowledge of the liability of its materials to, and the difficulty of detecting the approaches of, decay—often so insidious, and deep-seated, as to elude the vigilance of the most skilful workman.

From an examination of the cut of Mr. Rider's bridge, engineers will discover that the invention is based upon scientific principles, and that the combination of the trusses is such as to throw the weight of the passing body almost exclusively in the longitudinal direction of the wrought iron tension bars, thereby securing a power of endurance, such as iron alone can give, and which in practice is found to be more than equal to any emergency which the heaviest trains can subject them to. Where these bridges are now in daily use, we have observed that they appear to possess almost the solidity of *terra firma*; no sensible depression can be detected by the most vigilant observer during the passage of the trains. In the construction of them the utmost pains is taken, we are informed, to use only the *best* materials, without regard to cost, and in the process of filling the parts, every bar of iron is subjected to a proof, and made to endure a strain, much greater than can ever be legitimately imposed upon them when occupying their place in a finished bridge. But it is not for strength only that these bars should be adopted; if kept covered with a coat of coal tar—the cheapest article that can be used—time can exercise no influence upon them, or if any, so little that the lapse of a century would leave no marks of decay—while their total exemption from accident by *fire*, adds immeasurably to their value. The risk of fire caused by the passage of locomotives over wooden bridges, is always imminent, often requiring in expensive structures, the employment of a watchman, night and day, to guard against this disaster, which should it occur at some points would involve a loss of income (beyond any insurance that could be effected) and on some roads even greater than the cost of an iron bridge at the same point.

We have already extended these general remarks so far, that we must say less of particulars than we had intended.

The company furnishing these bridges are practiced and careful men, determined that every step taken shall be justified by previous experience; this it is which has hitherto restrained them, in most cases, from extending the span much beyond a hundred feet—though a bridge is just now completed at Buffalo of 160 feet, which will be tested during the present week, and which they doubt not will prove in all respects satisfactory, and authorise the building of longer spans, till finally they reach 300 feet—a limit which they deem entirely feasible.

The cost of these bridges is so low, that when their advantages come to be considered, and properly appreciated, we can hardly doubt of their almost universal adoption. This cost will of course be varied in reference to locality, and the peculiar obstacles to be encountered at the point of erection, but as a general rule it may be stated that an indestructable iron bridge of 100 feet in length may be completed for considerably *less* than double the cost of a frail and perishable wooden one.

In order that our readers may fully understand the views of the company—owners of the patent, and builders of these bridges—we give, in this number, the contents of a small pampelet, with an engraving of a bridge of 150 feet span, designed for railroad trains, which we have received, and ask the attention of those interested in such matters, as we are sure that *true economy* to railroad companies will be promoted by a general introduction of this plan of bridge.

Morse's Claims to the Telegraph.

We copied into our last number a few pithy remarks bearing upon this subject, from the pen of the editor of the New York Observer. In looking over the "Pathfinder," of last week, our eye rested upon the following, which we insert for the benefit of all concerned.

"*Morse's Claims.*—Although the telegraph controversy, going on between Morse, House and Bain, has been made the subject of judicial proceeding in Kentucky, and more latterly at the patent office, and the claim of Morse to priority of invention has been partially substantiated by the authorities appealed to, yet the matter at issue between the respective parties is far from being settled, either to the satisfaction of those immediately interested, or to the public at large. In the declaration filed by Morse, he assumes to be the first discoverer of the principle of transmitting intelligence between distant points, by means of electricity produced from electro-magnets, and conveyed by wires connected to certain apparatus at each terminus, in such a manner as to form corresponding hieroglyphic characters at each station by operating the apparatus at either, and prays to be protected by law against infringement on his alledged exclusive right: or in other words desires an injunction, which shall prevent House and Bain, and all others, from using this principle without his consent—and thus render their improvements useless, and them at his mercy. On the other hand, House and Bain deny Morse's claim to originality of invention in the particular stated, and aver that no one can by law claim the application of a known principle to this purpose, even if he were the first to make it; and Bain, in a letter published in the National Intelligencer, in reference to the late decision of the commissioner of patents, and the attorney general of the U. States, on the case, states:

"'A patent is now passing through the several stages of the patent office, and I expect to receive it in a few days, for my original electro-chemical telegraph, which transmits and records the signs with great rapidity, by a single telegraphic circuit, entirely without secondary circuits, and the cumbrous apparatus to them.

"'It is true that Mr. Morse lays claim to such an invention, and his allegations date in September, 1846. But Mr. Morse was in London, as I am informed, in 1845, and the specification of my invention, dated 27th November, 1843, was open to him, as to any one else, who would pay one shilling sterling to see it.

"'By this the public will see that I anti-date Mr. Morse three years and a half, as my patent was issued in London the 27th May, 1843, previous to the above specification of it; while Mr. Morse's caveat only was entered in January, 1847, and his application for a patent was dated January, 1848, four years and seven months *after* the issue of my English patent.'

It would appear, from this statement of Bain, in the opinion of the *Pathfinder*, that "the decision of the attorney general and commissioner of patents, was not against his claim, as was stated by the press generally; but on the contrary, judging from the satisfactory tone of his letter and the absence of complaint on his part, as favorable as he desired. It is not probable, however, that the parties interested will yield their claims to an invention so important without carrying it to the highest tribunal of our land, the supreme court, when we trust the question at issue will be finally and satisfactorily settled, both to the claimants and the public."

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 18th ult., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Nov. 21	3,099 15.	212,168 03
By Room Run ..... "	3,302 14.	117,984 00
By Hazleton	2,097 00.	85,548 00
By Beaver Meadow	2,196 03.	81,228 11
By Buck Mountain	1,327 18.	70,162 00
By Spring Mountain	2,046 03.	61,969 00
By Cranberry Mines	1,596 00.	17,031 00
White Haven	383 06.	10,356 11
Diamond Co	428 18.	6,073 07
Total	17,477 17.	602,517 12

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 23d ult., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven	7,675 00
" Pottsville	3,844 16
" Port Carbon	6,225 02
" Port Clinton	2,418 09
Total this week	19,163 07
Total this year	1,139,046 07

The amount of coal brought to market by the Schuylkill canal during the week ending the 23d ult., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon	5,301 17
" Schuylkill Haven	3,025 11
" Port Clinton	778 01
Total this week	9,105 09
Total this year	420,424 04

Recapitulation.—Total Shipments this Season.

By Lehigh companies	662,517 12
By Reading railroad	1,139,146 07
By Schuylkill canal	420,424 04
Total	2,222,088 03

Troy and Greenbush Railroad.

In pursuance of a resolution of the Assembly, passed February 3, 1843, the Troy and Greenbush railroad association respectfully submit the following report:

The Troy and Greenbush railroad, extending from the city of Troy to Greenbush, opposite the city of Albany, is 6 miles long.

The amount paid on construction of road to January 1, 1848	$270,827 28
Received from 198,152 passengers.	36,366 74
" freight	26,784 59
" other sources.	677 73
Expended for repairing and running the road	42,756 03
Expended on construction of road in '47	19,414 53
Dividends, none.	
Number of locomotives	3
passenger cars, eight wheel	3
freight cars, double, equal to single cars	19
machine shops.	1
horses	2
Average number of men per day in the employ of the company for the year.	70
Number of miles run by passenger trains	47,628
freight "	3,816
other "	3,000
Total number of miles run in 1847.	54,444

N. Stratton, Accountant.

Albany and West Stockbridge Railroad.

The directors of the Albany and West Stockbridge railroad company submit the following report for the year ending 31st Dec., 1847:

The length of road in operation under the lease to the Western railroad corporation, 38¼ miles.

Cost of construction to Dec. 31, 1847,	$1,789,808 76
Number of through passengers	106,369
" way "	30,077
The expenses of the road repairs, including the repairs of building ferry boat and docks in the city of Albany	$44,234 07

No locomotives or cars of any description are owned by the company.

No men or horses have been employed by the company.

One machine shop at Greenbush is owned by the company.	
The number of miles run by the passenger trains of the lessees	54,786
The number of miles run by freight trains of the lessees	145,205
Number of miles run by all other trains	24,417

There is no income; the lessees pay the interest on the bonds of the city of Albany, which amount as rent, to $100,000

M. T. Reynolds, President, etc.

Northern (N. H.) Railroad.

Third Annual Report, May, 1848.

Although this is the third annual report made by this company, yet it is the *first* we have seen—therefore it is new to us, and may be new to many of our readers. This road is, as is well known to our readers, a *continuation* of the Boston and Lowell, the Nashua, and the Concord, N. H., roads, to the Vermont line, where it connects, at the mouth of White river, with the Vermont Central road, to Burlington, and thence another road to Rouse's Pt., 38 miles, where it is to cross the outlet of lake Champlain, and connect with the Ogdensburgh, or Northern, N. Y., railroad, of 117 miles, making the distance from Boston to Ogdensburgh *four hundred* miles.

This road, like the Central Vermont road, occupies an exceedingly favorable position, being one of the two lines which must pass the immense trade between Boston and the lakes, and of the upper valley of the Connecticut river, and it will yield to its stockholders rich returns upon its cost, even though its construction, from the character of the country, has been very expensive.

It has been constructed in the most substantial manner, as we are informed, and furnished with an outfit equal to present demands; and has thus far more than realised the expectations of its most sanguine friends. Its day of prosperity has not yet *dawned*. The completion of the Vermont Central, the Ogdensburgh, and the Passumpsic river road and their branches and connections, will bring to it an amount of business not, even *now*, dreamed of by the many who look upon it with *inexperienced* eyes.

We have not yet passed over it, and cannot therefore speak from observation, but have reason to believe it a well constructed and a well managed road.

The following report, to which we ask attention, will show its cost and performance to date.

REPORT.

To the Stockholders of the Northern Railroad:

The fourth article of the By-laws of our corporation requires the board of directors for the time being to make an annual report of their acts and doings, their receipts and expenditures, and the condition and prospects of our road.

In compliance with this regulation we now submit our third annual report, embracing

an exposition of our affairs up to the 1st day of May, 1848.

At the time of our last report the Concord railroad were running our road as far as Franklin. By virtue of their contract with us, we had the net income, after paying them the actual expense of running the road. This contract continued to exist until the first day of last September, when we opened our road for public use to the town of Grafton, and then put our own men and furniture upon the road, and commenced operating the same upon our own account. On Wednesday, the 17th day of November last, we ran passenger cars for the first time to Lebanon, Centre village. Since that time our trains have run daily, to and from that village, being a distance of 64 miles, without serious interruption.

With pleasure we state the fact, that our road is graded, and the track laid, for the whole distance to the mouth of White river, in Vermont. Our bridge over Connecticut river, constructed by Mr. Campbell in a very substantial manner, is now ready for use.—We now contemplate running two passenger trains, and one freight train, daily over our road.

Some more labor and expense must necessarily be bestowed on some of our deep cuts, in giving them the proper slope; in the erection of suitable bank walls, pass ways, culverts and ditches: in providing defences about some of our embankments, and in fortifying some of our bridges, and their abutments and piers, against the action of water.

These improvements are now being made, and when completed we shall then claim that our road is as well made, and secures the public as well, as any other road in the U. States.

The buildings necessary for the accommodation of our road are all finished except at West Lebanon. They are generally built in the best and most thorough manner, both as regards convenience and durability. Our engine house at Concord is 126 feet in diameter. The one in progress at W. Lebanon is 130 feet in diameter. Each is to accommodate 16 locomotives, and to have turning tables of the diameter of 40 feet in their centre. Our repair shop at Concord is 180 feet in length, by 50 feet in width, with a basement story and loft over head, well equipped with the best quality of tools and machinery, sufficient for the construction and repair of engines and cars required for the road. It is the intention to do our principal repairs at Concord at present. We are, however, erecting a repair shop at West Lebanon, 80 feet by 50, where such a portion of our work may hereafter be done as our convenience may require. We have also an engine house at Franklin, erected to hold five engines, with a good turntable in it. This is necessary for the supply and change of motive power, where our higher grades commence. Also similar accommodations near the summit, to enable us to keep engines to send in either direction in case of deep snows.

We have been at considerable expense in providing our road with a plentiful supply of good water, drawn from ten different fountains or springs, at the average distance of about eight miles from each other. The water from each fountain freely flows into our cisterns, so that we have no occasion to resort to pumping to procure this necessary element of steam power.

Our motive power now consists of 10 first class engines, and 1 second class: 5 of them passenger engines of 16 tons each, and eight wheels; 4 freight engines of 10 tons, each 8 wheels; 1 freight engine of 24 tons, and 10 wheels: 1 second class engine of 11 tons, 6 wheels; 11 passenger cars, with 64 seats: 5 eight wheel baggage cars; 2 four wheel do.; 47 gravel and stone cars; 29 hand cars; 121 eight wheel merchandise cars; 67 four wheel do.; 8 snow ploughs.

Our land damages are now nearly all adjusted. Since our last report a few balances remaining unpaid were deposited with the State treasurer, and a lease of our road for the term of 200 years, executed by the chief executive officer of the State, has been procured and placed in our archives.

This has been done in order to give us a title to our road, and in pursuance to the statute law of New Hampshire.

In relation to our financial affairs, we would state, that within the past year we laid two assessments upon the old stock of our corporation, which have been paid. Our treasurer has also sold the 3293 shares of the new stock, created Nov. 18, 1846, which had not been taken or disposed of at the time of our last report. This was sold at or about par, and the proceeds paid into the treasury. On the 7th day of October last, the directors, finding that two millions would not be sufficient to complete and equip the road, voted to increase our capital stock, by the farther addition of $400,000, or 4000 shares. This was duly offered to the stockholders, and about $70,000 taken by them at par. Our treasury requiring the money, and the pressure in the money market becoming severe, and there being no hope of immediate relief, for these and other reasons we concluded to make a prorata distribution of 3000 shares of the stock, to such stockholders as held stock on the first day of January last, at $90 per share.

We were well aware that this stock could not have been sold at that time, either at auction or at private sale, without a sacrifice.—We placed it at such a price as to command the money. The stockholders very generally shared the benefit of our discount, and have thus realised a gain to the extent of our loss. And the corporation have thus avoided a temporary or permanent debt. On the 22d of April last, the directors, to meet the liabilities of the corporation, voted to add the farther sum of $200,000 to its capital stock, and that the same be offered at par to such as were stockholders on the first day of May, until the first day of June next.

When this amount is paid in, our capital stock will amount to $2,600,000. The present claims against us, as well as those that may reasonable be anticipated, give us the assurance that it will require about this am't of stock to complete and furnish our road.

The stockholders are aware that on the 20th of January last we paid them interest at the rate of 6 per cent., upon all payments made by them prior to January 1, 1848.—We have voted to pay the same rate of interest on the first day of June next to stockholders, upon all payments made by them prior to the first day of May current.

From and after the first day of the present month, dividends of the net earnings of the road will be paid semi annually, agreeably to the by laws of the corporation. We made no dividends of profits at an earlier period, because we thought the spirit of our charter required the whole road to be open for public use, before we commenced distributing its earnings.

By our treasurer's statement, it will appear that the interest paid to stockholders does not greatly exceed the net earnings of the road.

Amount of interest paid to stockholders, prior to May 1, 1847	$32,700 01	
Amount paid since to May 1, 1848	100,066 35	
Whole amount of interest paid		132,766 36
Amount of net income of our road from the 1st of Jan., 1847, to May 1, 1847, inclusive		6,107 12
Amount of income received from Concord railroad from the 1st day of May to the 1st day of September last		13,705 75
Net amount of income received from 1st day of Sept., 1847, to May 1, 1848		102,751 59
		122,564 46
The whole amount of net earnings, deducted from the interest paid, leaves a balance of interest as a charge upon the treasury of		$10,201 90
The amount of treasurer's receipts are as follows, viz:		
Amount received for stock to May 1, 1847, as per last report	$1,299,967 81	
Amount received since, and to May 1, 1848	1,027,987 82	
		2,327,955 63
Amount received for interest		21,009 82
		2,348,965 45
Received from Concord railroad for use of Northern railroad up to Sept. 1, 47.		19,812 87
Received for earnings of this road		155,043 84
Received on account of roads below		117,924 81
Gross earning of this road		292,781 52
Add amount of bills payable		111,450 59
		404,232 11
Amount received for stock and interest brought down		2,348,965 45
Making whole amount of receipts		2,753,197 56
Amount of expenditures:		
General expenses	20,464 13	
Engineering and preliminary surveys	39,499 32	
Land and land damages	92,607 65	
Iron	557,610 22	
Grading and masonry	989,413 22	
Changing roads and streams	34,418 26	
Superstructure	138,133 94	
Fencing	17,437 41	
Bridging	104,716 98	
Cars and engines	206,199 61	
Depots	101,048 23	
		2,301,548 97
Interest to stockholders	132,766 36	
Discount of 3000 shares sold at 90 per cent	30,000 00	
		2,464,315 33
Expense of running the road since Sept.		

1, 1847	52,377 85
Paid to lower roads	117,924 81
Wood, tools, etc., on hand	19,393 03
Bills receivable	51,654 33
Cash on hand	47,532 21
	2,753,197 56

Abstract of Northern Railroad Income and Expense Account, to May 1, 1848.

Net income received from Concord railroad to September 1, 1847	19,812 87
Gross income from passengers from Sept. 1, 1847, to May 1, 1848	118,001 66
Gross income from freight from Sept. 1, 1847, to May 1, 1848	152,473 58
Income from rents	593 76
" express	1,833 00
" miscellaneous sources	66 65
	292,781 52
Deduct proportions paid lower loads	117,924 81
	174,156 71
Deduct also expenses of running the road	52,377 85
Net balance of income of the road since May 1, 1847	122,478 86

The expense of running the road is as follows:

Ticket and baggage masters	731 86
Handling merchandise	12,009 47
Engineers and firemen	2,746 91
Conductors and brakemen	3,526 32
Repairs of engines and cars	5,506 33
Fuel	8,317 51
Oil	3,554 55
Repairs of road	12,188 74
Removal of snow and ice	201 00
Switchmen and watchmen	1,014 42
Advertising	67 00
General and miscellaneous expenses	2,706 17
Stationery	807 57
	$52,377 85

When we consider that our road was used only to Franklin up to September 1, the first third of our year, and then to Grafton for the next three months, where we could not receive a large proportion of the freight of the Lebanon road, we think you will agree with us in the opinion that our income thus far has been highly encouraging. From the first opening of our road the income has been gradually increasing. Although we may not realize the annual increase of 33½ per cent., which the Nashua and Lowell road received for the first nine years of their operations, yet we think we can reasonably calculate upon a very respectable addition to our present business.

It will be seen by the foregoing figures that the net earnings of the road, since we commenced running it ourselves, that is, from September 1, 1847, to May 1, 1848, a period of eight months, was $102,751 59

The interest on our capital of $2,400,000 for the same period of eight months, is $96,000 00. Leaving a net balance of earnings for eight months, including the winter, of $6 751 59 over 6 per cent.

It will also be observed that this capital covers the expenditures on the whole road, which the earnings were for three months on 44 miles, and for five months on 64 miles.—The whole road to White river has not been yet run with the regular trains.

Our number of passengers to Sept. 1, 1847, was	54,204
From Sept. 1, 1847, to May 1, 1848,	72,048
Total,	126,252

Of the passengers,

29,058	were to and from	Boston,	
25,517	"	"	Lowell,
23,730	"	"	Manch. & Nashua,
30,727	"	"	Concord, [sev. roads.
17,220	"	"	Way-stations on the

The number of passengers over the Concord road, from April 30, 1843, to April 30,

1844, was	73,355
1845,	100,843
1846,	151,530

The number of tons of merchandise transported during the past year is as follows:.

By the Concord railroad to September 1, 1847,		
Upward,		11,475
Downward,		6,941
		18,416
From Sept. 1, 1847, to May 1, 1848,		
Upward,	21,925	
Downward,	15,623	37,548
Whole number of tons		55,964

Since September 1, 1847, our gravel trains have run	51,110	miles,
Passenger trains,	32,960	"
Freight trains,	20,972	"
Extra running,	3,770	"
Total,	108,812	"

Our passenger trains have run thus far without accident. One of our freight trains recently came in collision with an engine of the gravel train, in North Enfield. The meeting was at a curve upon our road, and the engines were not running at full speed. No one was materially injured. The engines have been repaired, at an expense not exceeding $200 00.

In April last, as some Irishmen were pushing some stone cars, heavily laden with iron, upon one of our bridges over the Mascomy river, in West Lebanon, the flooring, or cross timbers, gave way, and the men and cars fell into the river. Three or four of the men were severely injured, but we are happy to state that they are all recovering.

We consider we have been fortunate in not meeting with more accidents, as we have been obliged, necessarily, to keep a number of different trains upon our line, for the purpose of gravelling and running the road.

We have carried the mail to the different offices upon our line, until recently, without compensation: we now have a contract with the Post Office Department, by virtue of which we are hereafter to receive remuneration.

Our contract with the three lower roads is similar in its terms to that heretofore made by the Boston and Lowell railroad with the Nashua and Lowell, and Concord railroads.

During the past year the Franklin and Bristol railroad has been organized, and its road put under contract. The grading and bridging of the road are now nearly completed, and its track being laid. This road is comparatively a cheap one. Its whole cost will not probably exceed $200,000. A large majority of its stock is owned by stockholders of our road.

We have no doubt this road will prove an important source of business to our own.—The directors of the two corporations, regarding the present identity of interest, and satisfied that the Northern railroad had the means of running the Franklin and Bristol road at a cheaper rate to the public, than it could be done by themselves, were induced, agreeably to the suggestions of our last annual report, to enter into an arrangement, by which it is stipulated that we take a lease of the Franklin and Bristol road, and agree to run it—receive the income thereof, and pay their stockholders the same *pro rata* dividends upon their stock as we pay our own. This contract is made subject to the confirmation or ratification of the stockholders of the several roads.

And to your action and deliberate consideration, the subject is now on our part respectfully submitted.

The reduction of fares for freight and passengers has commanded our attention. The lower roads have given us an example which we propose to imitate. Though less able to sustain the reduction, we are not less willing knowing that the public will gain by the experiment, if we do not. We propose that our passenger fare from Lebanon to Concord be established at . . . $1 75

From Lebanon to Boston at . 3 25

First Class Freight.

From Lebanon to Boston, per ton,	5 80
Second Class, Lebanon to Boston,	4 80

Having given a summary of our acts, our financial affairs, and the condition and progress of our road, in conclusion we would say, that friendly relations exist between us and with the other roads, with which we now have or may have business connections.

From a late examination of a portion of the line of the Connecticut and Passumpsic river railroad, united with the assurance of some of its efficient managers, we may regard it as certain as any fixed fact, that their road will be opened to Wells river, in Newbury, Vermont, as early as November next. Thus a new avenue, by railroad, will be afforded to the public for the distance of about 40 miles upon the beautiful banks of the Connecticut river, in the direction towards Montreal.

With equal certainty we can now calculate that the Vermont Central railroad will be finished as far as Bethel, being about 30 miles from the mouth of White river, in June or July next, and as far as Northfield or Montpelier, in the course of this year.—We understand that the Vermont and Canada railroad, connecting the Vermont Central with the Ogdensburg road, is now being located by an active board of engineers. The Ogdensburg road is under contract for its entire length, and the work upon its line is going forward with that prudence and energy which ensure final success.

We now number in our association about 1700 different stockholders. Very many of this number are embarked in other similar enterprises.

We commend the extension of the lines of

our Northern road to the patronage and pecuniary aid of such of our stockholders as are able to advance the cause of internal improvement. By helping them, we help ourselves, and also a great community who richly deserve railroad facilities. Let us resolve, then, as fast and as far as our means will justify, to lengthen and strengthen the iron chains that are destined to bind us to Montreal and Ogdensburg.

Directors of Northern Railroad.—George W. Nesmith, Solomon Wildes, Francis N. Fisk, B. B. David, Timothy Kenrick, Chas. Theo. Russell, Nathan Carruth.

May 24, 1848.

Railroad to the Pacific,
And Lieutenant Emory's Report.

Having recently published an able letter from Lieut. Maury, in relation to a railroad to the Pacific, we now give place to the following article from Mr. Whitney, on the same subject, though *not on precisely the same route*, from the Journal of Commerce.

Mr. Whitney has devoted himself to this *mighty enterprise* with a perseverance worthy of all praise, and *deserves success*, whether he achieves it or not.

In this communication are given copious extracts from the able report of Lieut., now *Major* Emory, who accompanied Gen. Kearney in his expedition to California: together with extracts from Colonel Fremont's memoir.

The information contained in the article, in relation to the country, will render it interesting, aside from its bearing upon a choice of routes. We therefore give the whole of it, though it may be divided into two or more parts for convenience.

(*From the Journal of Commerce of Sept. 16th.*)

NEW. MEXICO AND CALIFORNIA.

Messrs. Editors—On reading your remarks some days since, on the failure of the Senate Territorial—or Compromise—bill (as it was called) I noticed a strong desire for some compromise of the question, threatening, as you seem to think, so much evil; and you remark upon the value of the territory causing the difficulty. The latter induces me to hand you for publication, if you may think proper, the following extracts from the able and scientific report of Lieut. Emory, during Gen. Kearney's expedition to California.

The great work to which I have exclusively devoted myself for several years past, has led me to examine every subject connected with it, and no part has required or received so much of my consideration as that of *route* and the availability of lands on the route, to furnish the *only* means for the work, and as I could have but one object, that of selecting the route either north or south, that would be sure to furnish means, I have therefore sought to examine every account, and every person, who could give me any knowledge of the topography of any and every part of our continent.

The south generally have been particularly anxious for a more southern route than the one I had fixed upon, and having myself but one object, I would not be unwilling to accommodate their choice if possible.

Although having ascertained to my full satisfaction that there could be no other route than the one selected, where the lands could be made to furnish the necessary means, and that there is no pass through the Rocky mountains between the "South Pass," lat. 42½ deg. and Passo del Norte, lat. about 32 deg., and that from any point on the Mississippi, even as low down as Memphis, the route via the South pass, lat. 42½ deg., to the Pacific at Paget sound or San Francisco, would be more feasible, and as short as any more southern route from Memphis to the Pacific—still I have examined with great care and interest, the route of Gen. Kearney via Santa Fe, the Passo del Norte, and the Gila river to San Diego, with the description of the country as laid down in the report of Lieut. Emory, whose reputation is well known. His description of the country agrees fully with other accounts. Col. Donighan's expedition, by John T. Hughes, Esq., (same route as far as the Passo del Norte) is more particular in description of the country, soil, etc., but less favorable.

The report of Lieut. Emory does him great credit. It is both scientific and businesslike. It speaks for itself, and should be read by every one.

The following extracts require no comments; they show what the country is. I fully agree with Lieut. Emory, that negro slavery cannot be sustained there in any part, and I think it equally clear that a railroad could not be sustained, even if the capital other than the lands could be found to build it.

Page 12.—"We were now on ground (see map of July 10th) long. 98° 52′ 22″, which is traversed by the Nomadic tribe of Pawnees, Sioux, Osages and occasionally the Comanches. Their range is seldom farther east than Council Grove (about long. 96 10.) The country thence to the western borders of Missouri is in the hands of Indians owing allegence to, and receiving stipends from, the United States. (Note. Removed tribes to whom the faith of the nation is pledged that they shall not be disturbed.) They live in log houses, cultivate the soil, rear cattle, and pursue some of the arts of peace. They form the connecting link between the savage of the plains and the white man of the States.

Page 11.—"As you draw near the meridian of the Pawnee Fork, 99 deg. west of Greenwich, the country changes, almost imperceptibly, until it merges into the arid barren wastes, described under that section. The transition is marked by the occurrence of cacti and other spinois plants, the first of which we saw in long. 98."

Speaking of the river, the Pawnee Fork at Bent's Fort, he says:

Page 12.—"The bottom land, a few feet above the level of the water, varies in width, from half a mile to two miles; and is generally covered with good, nutritious grass.—Beyond this the ground rises by gentle slopes into a wilderness of sand hills on the south and prairie on the north.

"The soil of the plains is a granite sand, intermixed with the exuviæ of aninal and vegetable matter, supporting a scanty vegetation. The eye wanders in vain over these immense wastes in search of trees; not one is to be seen. The principal growth is the Buffalo grass and cacti, in endless variety though diminutive.

"The Buffalos are sometimes driven b the severity of the winter, (which is here, a at 'the Big Timber' intense for the latitude) to feed upon the cotton-wood of this place."—p. 13.

In his notes, Major Emory says:

Page 15.—"Aug. 2. Here we turned to the left, and pursued our course over arid elevated plains for 20 miles without water. When we reached the Timpas, we found the water in puddles, and grass bad. Our ascent was considerable to day, elevation 4523 feet.

"On these hills we found cedar growing, very stunted—a very stunted growth of plums, moss, and cacti in great variety, but diminutive.

"Aug. 4. The road wound through the valley of the Timpas. Dwarfed cedar skirted the road on each side; strata of hills same as yesterday.—p. 16.

"The pasture was so bad, that Col. Kearny determined to march to the "hole in the Prairie." The total distance to-day was 36 miles. The horses are now falling away in an alarming manner.

"The vegetation was the same as that of yesterday, as far as we could judge from its burned and parched condition; elevation, 5,560.—p. 17.

"Aug. 5.--To-day we descended 11½ miles, and reached the valley of Purgatory, a swift running stream a few yards in width, but no grass of any amount at the crossing. p. 17.

"Aug. 6 Col. Kearny left, &c.—and scattered Sumner's dragoons three or four miles up the creek to pass the day in renovating the animals by nips at the little bunches of grass spread at intervals in the valley. Elevation 7,169 feet.—p. 18.

"Aug. 7. Crossed the Raton, 7,500 feet. (*Note* higher than the South Pass, which is 7,490 feet. See Faemont Rep., page 128.

"The decent is much more rapid than the ascent. For the first few miles, through a valley of good burnt grass, and many beautiful flowers. But frequently you come to a place where the stream, (a branch of the Canadian), has worked itself through the mountains, and the road has to ascend and then descend a sharp spur. Here the difficulties commence.—p. 19.

"The growth on to-day's march, was pinon in small quantities, scrub oak, a few lamita bushes, and on the Canadian a few cotton wood trees; except at the camp there was little or no grass. The evening threatened rain, but the clouds passed away. We have had no rain since we left Cow Creeks, thirty days ago. We are now in what may be called the Paradise of that part of the country between Bent's fort and San Miguel; and yet he who leaves the edge of the Canadian or its tributaries, must make a good day's march to find wood, water, or grass.—Elevation, 6,112 feet.—p. 20.

Page 23. "Aug. 11. elevation, 6,946.

"Aug. 12. The plains are almost desti-

tute of vegetation. The hills bear a stunted growth of pinon and red cedar; elevation, 6,670.—p. 24.

"Aug. 13. (Encampment at the Canon). Grass was miserable, and the camp ground inundated by the shower to-day — which is quite a rarity. Elevation, 6,395.—p. 25.

"Aug. 16. Passed another Canon. The road passed over to-day was good, but the face of the country exceedingly rugged, broken, and covered with pinon and cedar. To the left one or two miles distant, towers a wall nearly perpendicular, 2000 feet high, apparently level on the top, and showing as near as I could judge from the road, an immense stratum of red sand stone.—p. 29.

"Aug. 18. Four or five miles from the old Picas, the road leads into a Canon, with hills on each side from 1000 to 2000 feet above the road, in all cases within cannon shot, and many within the point blank musket shot.—p. 31.

"The geological formation much the same as before described, until you begin to descend towards the Del Norte, where granitic rocks and sand are seen in great abundance as far as Santa Fe Cedar pinon, and a large growth of long leafed pine are densely crowded wherever the rock offered a crevice, —until within 6 or 8 miles of the town.

"(Santa Fe).—On leaving the narrow valley of the Santa Fe, which rises from 1000 feet to a mile or two in width, the country presents nothing but barren hills, utterly incapable, both from soil and climate, of producing anything useful. The valley is entirely cultivated by irrigation, and is now covered with corn. Five miles below the town, the stream disappears in granitic sands.—p. 34.

"Sept. 2. We descended the valley of the Santa Fe river nearly west for 5 miles, when we left the river and struck across a dry arid plain, intersected by dry beds of streams. Twenty-three miles brought us to the Galisteo Creek, which at that time was barely running. From this place to its mouth there is scarcely the sign of vegetation. At the dry mouth of the Calisteo and directly on the Del Norte, is the town of Santo Domingo.—p. 36.

"The valley of the Del Norte is here quite narrow and the soil sandy.—p. 38.

"Sept. 3. Between San Filippe and the Angosturas, six miles below, the valley of the river is very narrow, affording no interval for agriculture. On the west side, the banks are steep walls, crowned by seams of basalt, forming the table land. The east is composed of rolling sand hills, rising gradually to the base of the mountains, and covered with large round pebbles. Elevation, 5000 feet.—p. 39.

"Sept. 4. Below the Angosturas the valley of the river opens into a plain varying from 2 to 6 miles wide; soil sandy and cultivated by irrigation.—p. 40.

"Sept. 6. The valley suddenly contracts below Padilla, between Isoletta and Piralta. On the east side of the river there is deep sand, and the country is perfectly barren.—p. 41.

"Sept. 7. About 11 o'clock the whole character of the night was changed by an east wind that came rustling down from the mountains, driving the sand before it. Nearly the whole of the distance travelled in the last three days has been over drifting sand, with only occasional patches of firm soil.

"Sept. 30. We decamped a little more than half way between Albuquerque and Pardillas on a sandy plain, destitute of wood and with little grass.—p. 46.

"Sept. 30. Feeling no desire to go over the same ground twice, I struck off on the table lands to the west, and found these a succession of rolling sand hills.—p. 47.

"Oct. 4 The wagons mounted the sand hills with great difficulty. The river impingnes so close on the hills as to make it necessary, on the western side, to mount the table land. These plains, reaching to the base of the mountains, are of the same character as heretofore mentioned, of rolling sand hills.—p. 49.

"Oct. 5. Camp near Secora—leave the river and strike for the Gila. We accordingly moved only 6 miles to-day, and encamped a little north of Secora, preparatory to taking the hills to-morrow. The prospect is forbidding; from Sierra Lescadron, opposite the amphitheatre, as far south as the eye can reach on the western side of the river, is a chain of precipitous basaltic mountains, traversed by dykes of trap; through these we are to pass.—p. 51.

"Oct. 6. Determined not to leave the river.—p. 52.

"Oct. 8. The valley of the Del Norte, as we advance, loses what little capacity for agriculture it possessed. The river commences to gather its feeble force into the smallest compass to work its way around the western base of Fra Cristobal mountain.—The Chihuahua road runs on the eastern side, and that part of it is the dreaded "jornada" of the traders, when they must go most seasons of the year 90 miles without water. Our road over hill and dale led us through a great variety of vegetation, all totally different from that of the United States. To-days observations of the plants may be taken as a fair specimen of the southern part of New Mexico. First, there were cacti in endless variety, and of gigantic size; our new and disagreeable friend, Carrea Mexicana, Fremontia, &c.

The table lands, reaching to the base of the mountains to the west, are of sand and large round pebbles, terminating in steep hills from a quarter to a half a mile from the river, capped with seams of basalt.—p. 54.

"Oct. 9. The country becomes broken, and the valley narrows into a cannon which sweeps at the base of Fra Cristobal mountain, making it necessary to rise to the table land on the west side, which we found traversed by deep arroyas, crowned on their summits by basalt.—p. 54.

"The road was unbroken, obstructed by bushes, and so bad that the wagons made only 11½ miles, and the teams came into camp *blown* and staggering, after their day's work. Expecting nothing better ahead, it was determined to leave the wagons and send back for pack saddles.

"For the last night or two, it has been unusually cold, the thermometer ranging from 25 to 32°; but during the day it mounts up to 75 and 80; Lat. 33, 20 20.—p. 55.

"Oct. 15. After travelling 3 miles and a half, we turned from the Del Norte and took final leave of it—altitude 4,810 feet. Capt. Cook left this route and went further south as far as lat. 31½° then northwest.

"Oct. 16. We commanded the approach to the Membres mountains, over a beautiful rolling country. The soil in the valley, and to the hill tops, of the best quality—nothing but rain is required to make this part of the country inhabitable. (Cacti prevailed).—p. 57.

"Oct. 18. Succession of hills and vallies, covered with cedar live oak, and some long leaf pines. Elevation, 6,167.—p. 58.

"Oct. 19. The country passed over in the first part of the day was beautiful in the extreme. A succession of high rolling hills, with mountains in the distance. The soil rich and wavering with grama. The latter part was more barren, and covered with artemisias.—p. 59.

"We wended our way through the narrow valley of Night creek. On each side were huge stone buttes, shooting up into the skies. At one place we were compelled to mount one of these spurs almost perpendicularly. This gave us an opportunity of seeing what a mule could do.—p. 61.

"Oct. 21. After going a few miles, crossing and recrossing the river a dozen times, it was necessary to leave its bed and avoid a canon. This led us over a very broken country, traversed by hugh dykes of trap and walls of basalt.

"The earth in the river bed, where it was not paved with fragments of rocks, was loose resembling volcanic dust, making it unsafe to ride out of the beaten track. A mule would sometimes sink to his knee. This was a hard dry day on the animals; the steep ascents and descents shifting the packs, and cutting them dreadfully. The howitzers did not reach the camp.—p. 62.

"Oct. 23. Last night the heavens became overcast, the air damp, and we expected for the first time since leaving Santa Fe (a month to-morrow) to have a sprinkle of rain; but at 9 this morning the clouds had all cleared away.

"The changes of the temperature are very great, owing to the distance from the influence of large masses of water, and if they are accompanied with corresponding changes in humidity, they would be insupportable.—Last night we went to bed with the thermometer at 70° and awakened in the morning shivering; the thermometer marking 25°.

"The table land, 150 feet above the river, was covered so thick with large paving pebbles, as to make it difficult to get a smooth place to lie upon. The growth of to-day and yesterday, on the hills and in the valley

of the Gila, very much resembles that on the Del Norte, the only exceptions being a few new and beautiful varieties of the cactus.

To be Continued.

Rider's Improved Truss Bridge.

This invention consists in the peculiar introduction and application of the longitudinal strength of iron, in such a manner as, whilst it tends effectually to secure the durability, also presents a structure of greater economy than any other iron bridge, of equal dimensions, at present in use.

The truss of the Rider bridge is principally composed of an upper and lower chord, upright posts, and suspension chords, or diagonal ties. The upper chord forms an arch, and has to sustain only a compressing strain; is made of cast iron, with heavy flanges, so arranged as to give it great stiffness; is longer and larger than the lower chord, which having to sustain a tension strain, is made of wrought iron. The diagonal ties, or suspension chords, are made of wrought iron, and are secured only to the upper and lower chords at regular intervals, running upwards and downwards, diagonally with the chords, and at nearly right angles with each other. The posts are of cast iron, and are placed at equal distances apart, along the whole length of the chords, to keep the upper and lower chords asunder, and at the same time assist in preserving the truss in line. Each part of the truss is made of a size and strength proportionate to the span of the bridge, and weight of the load which it is designed to support.

When these diagonal ties are thus attached and the chords also kept apart by the iron posts above mentioned, the truss is formed upon which the platform or roadway is to rest.

To the engineer, it will be at once apparent that the great strength of the truss is in the arched top chord and suspension or diagonal ties; but these alone, in conjunction with the posts and chords, would not make that equal and effectual resistance to the action of a load passing over the bridge, which is desirable, or prevent what has always been found so very objectionable in iron suspension bridges, namely, the oscillation or vibration of these structures upon the passage of a motive power over them.

In order to equalize the strength of the Rider bridge, a wedge or key is inserted on each side of the top of the iron posts under the top chord, by the action of which the upper and lower chords are kept at the greatest possible distance from each other, the *full strength of the longitudinal tension of the wrought iron ties effectually obtained* and the *cambering* or *arching* of the bridge, thus permanently secured; and in order to obviate oscillation, longitudinal ties, or braces, are put under the floor of the bridge, made of wrought iron, running diagonally from one truss to the other, and at right angles to each other, brought to great tension or strain with a screw-nut on the end, which entirely prevents any tendency to oscillation.

This peculiar application of the *longitudinal tension* of wrought iron in the construction of an iron bridge, and the *cambering* or *arching* as just explained, by means of the wedges or keys, are deemed entirely original and will be found to be highly important and valuable discoveries.

It is not, however, upon any separate part that the advantages of this bridge will be found to depend; all the parts act together, symmetrically, scientifically, and mechanically, the combination and effects of which will be more fully explained in the following remarks. A weight upon the platform of the bridge has a tendency to compress or shorten the top chord, and to distend or lengthen the lower one; both these effects are counteracted—the former to a certain degree by the tension strain of the diagonal ties having an upward bearing or strain, and the latter by the diagonal ties having a downward bearing, which ties, by the action of the wedge or key placed at the top of the posts and underneath the top chord, are kept at their full strain and strength by the lengthening of the posts, as the wedge or key is further inserted, *whilst at the same time the wedge or key also serves to keep apart the upper and lower chords*, and thus, by the combined power of these several parts acting upon each other, solidity, strength, and firmness are given to the entire truss.

But as it may be supposed, upon a slight and partial view of the diagonal ties, that they merely form an ordinary lattice work, and consequently are neither original nor of greater strength than that well known contrivance, a further consideration of these cross ties is necessary in order to show not only their originality, but the great value and importance of them as applied in this invention.

In the first place, it is known that in the ordinary lattice bridge, the lattices are of necessity pinned or locked together at their angles; consequently, a fulcrumage is made on the straight line drawn through the centre of the truss, which is a well known defect in the principle of its construction.

But in the Rider bridge it is entirely different; for, by the diagonal ties *not being fastened* in the centre of the angles, the fulcrumage is wholly removed from the space between the upper and lower chords and substituted by the more scientific, and much more valuable principle of the *arch and suspension*. This very great superiority of the Rider bridge forms a most interesting feature in the invention, and is deserving of particular attention.

Again, in a common piece of lattice work upon which there is a strain or weight, it is clear that the pressure must be unequal; the several parts act in different directions, without having any counteracting force in any one of them, and all being pinned or locked together, so as to form one body, it cannot be of equal strength throughout; and, therefore, the motive force of a body passing over such a bridge must evidently tend to loosen, and thus weaken by degrees the power of resistance of the whole structure, as is always experienced in wooden bridges, supported as they are, entirely by the strength of the lattice; whereas, in the Rider bridge the diagonal ties are not lattices permanently fastened to each other, but chords acting separately and in different directions upon every part of the supporting truss. Thus the diagonal ties running from the ends of the top chord downwards towards the centre by means of the upright post, tend to support the lower chord to which they are attached, upon the principle of *suspension*; whilst the diagonal ties running from the centre of the bridge, along the whole length of the top chord downwards towards the end, by means, also, of the iron posts and keys, have on the principle of the *arch*, a counteracting force, and exert their strain in resisting the compressibility of the upper chord when weighted.—These opposite forces are evident from the relative bearing and different direction of the cross ties, to each one of which is given its separate action and its greatest strength, by means of the longitudinal tension produced by the operation of the wedge or key as before mentioned.

Having thus described the action of the diagonal ties, the strength and perfection of the truss will be better understood by explaining that of the upper and lower chords to which they are attached.

The upper chords are designed to be of cast iron, proportioned according to the length and capability of the bridge, but always of larger dimensions than the lower chords; because the effect of a load passing over the bridge, is evidently to compress the top chord in the direction of the centre, whilst the effect upon the lower chord is to distend it.

The lower chord, on the contrary, is made of two bars of wrought iron connected together, which, by the resistance produced in the action of the diagonal ties, and the compressive tendency of the top chord, is relieved from the downward pressure of a load while passing over the bridge, and therefore has only a longitudinal tension upon it.

Hence, upon the due consideration of these facts, the peculiar principle of the whole truss will be found to consist, by the combination of the several parts in obtaining the *longitudinal strength of the diagonal ties, and of the lower chords, by the positive operation of the wedge or key, and the equal distribution of tension or strain throughout the entire truss*, thereby combining the three strongest principles known in mechanics, as applied to this kind of structure, namely the arch, suspension, and triangle.

With regard to the economy of a bridge built upon the foregoing plan, it is sufficient in this brief outline to state that, if the first cost of a wooden bridge of equal span be given, and the amount added for repairs, insurance, wear and tear, (ten, or at most fifteen years being a fair estimate for the duration of a wooden bridge, when the whole of the first cost and all charges are entirely consumed), the Rider iron bridge can be erected at a cost not exceeding the estimate of the wooden bridge as here laid down, without taking into the account the loss of business by fire, which, before a bridge can be rebuilt is often much more than the whole cost of

the structure, with the further most important item, that whilst the latter has to be entirely rebuilt in so comparatively short a space of time, the former will stand with no repairs being needed, (requiring only to be occasionally painted), for a period, at a very moderate computation, of at least five times the duration of any wooden structure whatever. And as the Rider bridge has received the highest encomiums from many scientific persons who have examined into its properties, and the plan of its construction, there will be little doubt that it will soon supersede all others and become the most useful and economical bridge that can be adopted.

The Rider bridge has been in use on the Harlem railroad a year and a half, and fully tested by the very able chief engineer of the road. Allen Campbell, Esq., the result of which has induced the company to give further orders; the properties and plan of construction have been examined also by many other scientific and practical engineers, who have bestowed on the inventor the highest encomiums for his skill and ingenuity, and besides the bridges for the Harlem railroad, orders have been taken from the Erie rail road company, T. S. Brown, chief engineer; the Louisa railroad, Va., W. A. Kuper, chief engineer; the state of New York, by the Canal commissioners; and the White's Corners and Buffalo plank road company, near Buffalo; all of which will be soon in use, and may be referred to, as to the great utility of the Rider bridge over all others now known; and in confirmation of the foregoing reference is made to the reports and certificates hereto annexed.

Extract from the Report of the Committee on Roads and Bridges, made to the Managers of the 19th Annual Fair, at the Castle Garden, in the city of New York, Oct. 1846.

Of Mr. Rider's iron railroad bridge, the committee would say that in their opinion it is of great importance that railroad bridges should be constructed of a less destructible material than wood, aud that every effort to obtain that result is entitled to encouragement.

Mr. Rider, in his plan, No 262, has aimed to effect this by a combination of wrought and cast iron, whereby, with a limited amount of material, the adequate strength is to be obtained. The committee think favorably of the combination, and for bridges of not too large a span, believe that his plan will be found useful, and they, therefore, recommend a favorable notice on the part of the institute.

HORATIO ALLEN,
JOHN B. JERVIS,
JOHN D. WARD,
} Committee.

I hereby certify that the above is a true copy from the report on file, (a Gold Medal awarded).

H. MEIGS, *Recording Sec.*
New York, Nov. 10th, 1846.

Copy of Reports made by a Committee appointed by the National association of inventors, for the purpose of examining and Testing Nathaniel Rider's Patent Iron Truss Bridge.

The committee of the National association of inventors, charged with the examination of the plan of an Iron bridge, submitted to the association by Mr. Nathaniel Rider, respectfully represent that they have inquired into the plan of said bridge, and have carefully examined one which has actually been constructed in conformity with said plan at the workshop of the Harlem railroad company. They found that said bridge is composed of an octangular frame, the upper rail of which, with the queen posts, are composed of cast iron, while the lower rail is formed of wrought iron; this frame is diagonally braced by bars of wrought iron. In inquiring into the principles on which said bridge is constructed, the committee have come to the conclusion that the *two materials are so combined* as to bring each of them into action to resist the effects of a force applied to bend or break the structure, on the mode for which its peculiar nature and strength is obtained, with a small quantity of either material.—Without entering into a comparison with other plans of spanning openings by either of these materials, or by their combinations, the committee feel warranted in expressing a decided opinion that the plan in question can be applied with great advantage and economy in various cases, and that it is particularly advantageous as a mode of constructing viaducts on railroads. In forming this opinion, the committee, unwilling to trust its theory alone, required the inventor to submit that which has been stated to have been actually constructed to the test of experiment. In conformity with their request, the bridge, which has a *span of forty feet*, and contains about *two and one half tons of iron*, was loaded with a large locomotive engine, a tender, and a pair of large wheels with their axle; the latter being placed over one of the abutments, was not reckoned in the weight, which omitting, amounted to *twenty-four tons.*

Under the pressure of this weight, the bridge sprang the forty-four hundredth part of an inch, and upon the removal of the engine, which weighed eighteen tons, it immediately resumed its former figure. The committee, therefore, concluded that it must have borne at least four times the weight, without reaching the limits of its elasticity, which limits are far short of that at which danger of fracture is to be apprehended.

The committee have, in conclusion, to state, that the plan in question requires the use of a less weight of materials than any other, with the exception of suspension bridges, and is in consequence, capable, if properly proportioned, of being constructed of a greater span than any bridge except those on the principle of suspension, to which its freedom from oscillation renders it far superior.

JAMES RENWICK,
GEORGE GIFFORD
CLINTON ROSEVELT,
J. L. KINGSLEY,
} Committee.

New York, July 27th, 1846.

I certify that the above is a correct copy from the minutes.

JOSEPH P. PIRSSON, JR., *Rec. Sec.*
New York, April 4th, 1848.

This is to certify that the Rider Patent Iron Bridge, now on the New York and Harlem railroad, crossing 109th street, of 70 feet span, is in as good condition now as when first built, and of a superiority over all bridges that I know of now in use. It was built in April, 1847.

PETER K. BRASTOW,
Superintendent N. Y. and H. R. R.

Engineers Office, N. Y. and Harlem R R.
Croton Falls July 29th 1848.

An Iron bridge of about 70 feet span, on "Riders plan," was put on this road in April 1847, between the city of New York and Harlem, over which part of the road trains pass very frequently, and many of them drawn by heavy engines. After sixteen months of continued use, the bridge has answered every expectation; and so well satisfied am I of its strength and efficiency, that contracts have been made for several small spans of about the same length on the extension of this road, which are now in process of erection.

Several road and street bridges over the railroad, have also been built on this plan on the island of New York; these are light, durable and cheap structures.

From my knowledge of Rider's bridge, obtained from experience on the road, I commend it to the favorable notice of railroad companies.

ALLAN CAMPBELL, *Chief Engineer.*

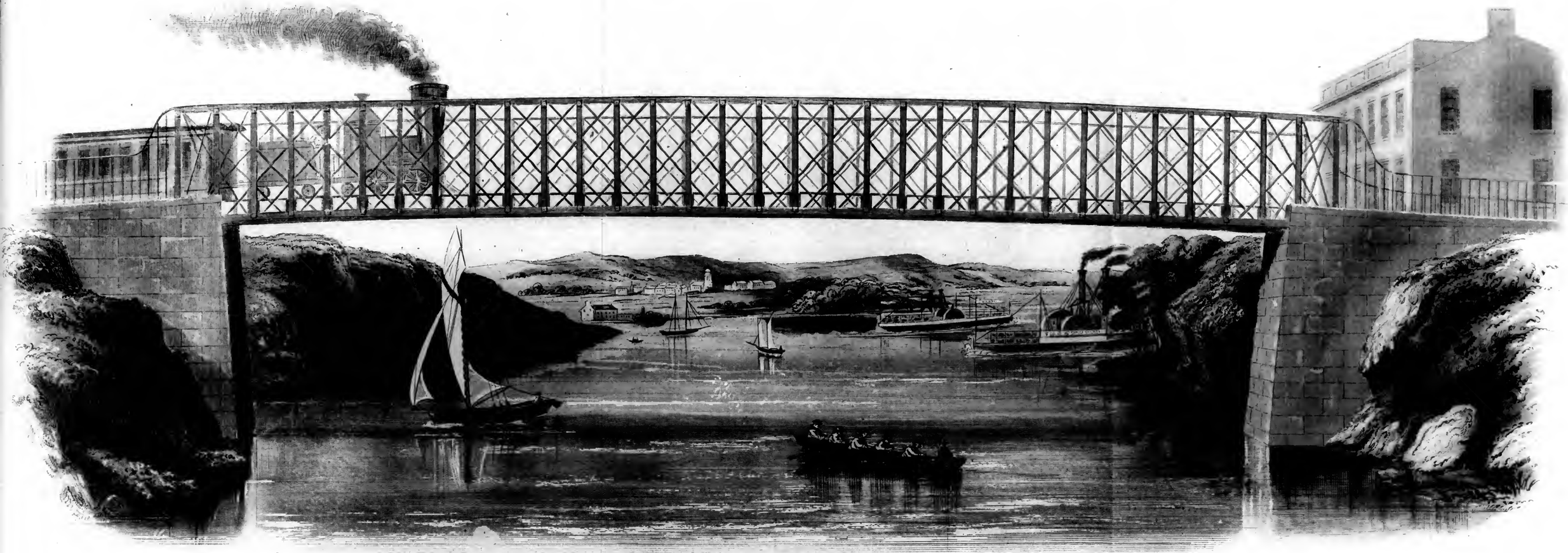
I have examined the plan upon which the Rider bridge is constructed, and fully concur with the opinion above expressed by Mr. Campbell the chief engineer of our road.

ROBERT SCHUYLER,
President N. Y. and H. R. R.

Conway Tubular Bridge.

We find in the R. W. Chronicle of 14th October, the following statement in relation to the second tube over the Conway, on the Chester and Holyhead railway. The first one of the pair has now been in successful use several months without the least indication of yielding, and this one completes the double track at this point. The mail for Ireland will pass over this line next season, or as soon as the bridge—a similar structure—is completed over the Menai Straits. These structures are noble evidences of the advance of the engineering science of the age, and leads us to look forward with confidence to the accomplishment of other equally difficult and useful works

CHESTER AND HOLYHEAD.—Oct. 12.—The second tubular bridge over the Conway Straits was floated on the pontoons to the piers. The operation, combined with the stupendous machinery employed in the process, attracted large crowds from Conway, aud other parts of the principalities. At precisely 9 A. M., or 50 minutes before high water, Capt. Claxton, R. N., gave the signal, and almost immediately the tremendous freight was seen stealing to its destination.—Next to him was Mr. R. Stephenson, M. P., attended by several other engineers. The tube was lifted in about 60 minutes, com



Eng.d By T. Bonar 124 Nassau St. NY.

PLAN OF RIDER'S IMPROVED IRON TRUSS BRIDGE, 150 FEET SPAN,

PATENTED 1845.

Orders for the above Bridges received at the office of the Rider Iron Bridge Company.
74 Broadway, or by W. Rider & Brothers, *58 Liberty Street, New York.*

M. M. WHITE, AGENT.

mencing at a few minutes past 9 a. m., and with its weight of 1,300 tons was got safely home at a few minutes past 10 a. m., amid enthusiastic bursts from the by-standers, and a salvo of artillery from the castle walls.—The entire operation was effected without the slighest accident. Three cheers were given for Stephenson. Now that the tube has been successfully raised, what is called the "testing process" a most important one, will follow. This will be done by removing the wedges that support the tube upon its cradle, the ends of the tube being left with a hold of 6 ft. each on the stone piers. To ascertain the flexure of the tube, about thirty ballast wagons, each filled with iron, in all 300 tons, will then be placed, and remain for a given period, in the centre. One advantageous feature in the operation was that the pontoon in their progress made no water.—On Saturday or Monday the whole structure will be completed by means of the hydraulic machines. The masonry will be built in under the corballing, and in another fortnight the trains will run through uninterruptedly. The other tube will then be closed for a short time to allow of the alteration of the rails, so as to admit of the removal of the transverse timbers, which may be dispensed with, and trusting only to the the transverse plates of iron. The first tube has now been subjected to five months' experience in all weathers, and it has been found, from the most minute and delicate observation, that the deflection varies only from the temperature up and down an inch, and although heavy rains have passed daily, the general deflection has not varied from what it was when first brought into use. On the return of the special trains, several hundreds went over the new line from Chester to Shrewsbury, the entire operation being completed before 11 a. m.

Mode of Extinguishing Fires at Sea.

SIR,—As the danger from fire at sea is attended with so many appalling circumstances (of which we have had a recent instance in the fatal and melancholy catastrophe of the *Ocean Monarch*), I beg through the medium of your widely circulated paper, to submit for the public consideration, and especially underwriters, the following plan, as a cheap, simple and efficient method of preventing the occurrence of such accidents. It occurred to me in the summer of 1846, during a casual conversation with Dr. Montgomery, superintending surgeon, H. E. I. C. S., then on the eve of returning to India. The principle is as follows:

Flame or combustion cannot go on where there is carbonic acid gas. This is one of the elementary principles of chemistry. It may be shown in various ways. A lighted taper, plunged into a jar of carbonic acid gas is instantaneously extinguished; or, if we take the glass of a common argand burner, and close the upper end of it by a flat plate of glass, or even by a piece of card or pasteboard, firmly, so completely as to prevent any current of air through the tube, on introducing for about an inch or so the flame of a candle at the outer extremity (the glass of the argand burner being held upright) it will shortly—usually in the space of little more than a minute, be extinguished, merely by the accumulation of carbonic acid gas, produced by its own combustion. The production of carbonic acid gas is completely at our command, for on adding dilute sulphuric acid to chalk, we can set at liberty, in the space of two or three minutes, enormous volumes of the so called fixed air. The cost of material for a ship of 1000 tons would not exceed at the utmost, 15*l.* or 20*l.* sterling.—By means of tubes proceeding from the upper deck, in connection with a cistern containing the dilute sulphuric acid, to the quarters below, where there is most likelihood of danger from fire, or moveable hose, made of gutta percha, which can be introduced into any part of the vessel, the oil of vitriol, previously diluted with water, can be at once poured over the chalk, which is thrown down in the place where the fire rages, and immediately, the corbonic acid being set at liberty, the fire is extinguished; for combustion cannot go on in an atmosphere of carbonic acid gas.

I have been much occupied experimenting on this subject: and I find that from 5 tons of chalk as much carbonic acid may be obtained as will be sufficient to fill a vessel of 1000 tons burthen. The expense of laying tubes will not exceed 30*l.* or 40*l.*; and once laid, there is no further trouble or expense. I may observe also (but experiments are at variance on this subject) that it is not requisite to have an atmosphere absolutely consisting of carbonic acid gas to extinguish flame, for some experiments show that a taper does not burn in an atmosphere of three parts atmospheric air, and one part carbonic acid gas. Lightning conductors are provided for ships; surgeons also take care of the health of the crew; assuredly no expense (and it is but a trifle) would be grudged to secure a ship and its passengers from the contingency of such a melancholy mishap as that of fire. If this method will do, there seems to be everything in its favour, all our emigrant ships, indeed every ship, ought to be secured against a calamity which really must be held as the most dreadful which can occur to a vessel at sea.—W. REID, M. D.: *Salisbury street, Strand, Aug.* 30

JAMES LAURIE, *Civil Engineer.*
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.
Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures
October 14, 1848. 6m*

RAILROAD IRON.
THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to
COOPER & HEWITT, Agents,
17 Burling Slip, New York.
October 30th, 1848.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.
When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

JAMES HERRON, *Civil Engineer,*
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.
MODELS of this Track, on the most improved plans, may be seen at the Engineer's Office of the New York and Erie Railroad.

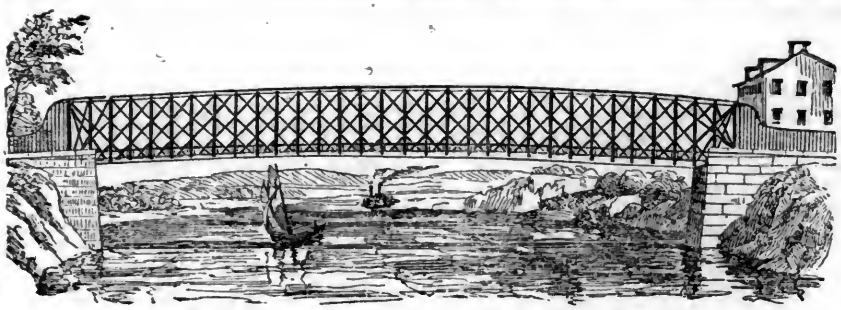
DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
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SUCH AS
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SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.
☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS,
1y48

TO CONTRACTORS.
OFFICE NASHVILLE & CHATTANOOGA R.R. Co.
Nashville, 9th November, 1848.
PROPOSALS WILL BE RECEIVED AT this office on 20th December next, for the Graduation and Masonry of forty miles of road, viz: twenty miles next to Nashville, ten miles crossing the Barran fork of Duck river in Bedford county, Tennessee, and ten miles on the northwest side of Tennesee river, in Jackson county, Alabama.
Profiles and plans may be seen at this office after 12th December. By order of the board.
C. F. M. GARNETT,
Chief Engineer.
N. B. Twenty-five miles of road (including the Tunnel,) and six miles heavy mountain work are under contract. Seven Hundred Laborers are wanted by the Contractors. 5t*48

☞ NOTICE. ☜
RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.
1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves	Albany	7½ A.M.	2 P.M.	7 P.M.
Pass	Utica	1 P.M.	7½ P.M.	1½ A.M.
Pass	Syracuse	4½ P.M.	11 P.M.	5 A.M.
Pass	Auburn	6½ P.M.	1 A.M.	7 A.M.
Pass	Rochester	12½ M.N.	7 A.M.	1 P.M.
Arrives at	Buffalo	5½ A.M.	12 M.	6 P.M.
Going east.		**1st train**	**2d train.**	**3d train.**
Leaves	Buffalo	7½ A.M.	2 P.M.	7 P.M.
Pass	Rochester	12½ M.	7 P.M.	12 M.N.
Pass	Auburn	6½ P.M.	1 A.M.	6 A.M.
Pass	Syracuse	8½ P.M.	3½ A.M.	8 A.M,
Pass	Utica	12 M.N.	7 A.M.	11½ A.M.
Arrives at	Albany	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.



RIDER'S PATENT IRON BRIDGE.

THE RIDER IRON BRIDGE having now been fully tested on the Harlem Railroad, by constant use for about eighteen months, and found to answer the full expectations of its most sanguine friends, is now offered to the public with the utmost confidence as to its great utility over any other Bridge now known.

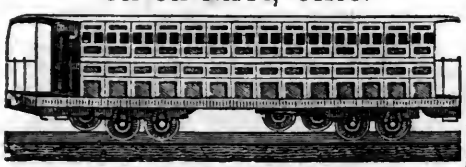
The plan of this Bridge is to use the iron so as to obtain its greatest longitudinal strength, and at the same time is so arranged as to secure the combined principles of the *Arch*, *Suspension* and *Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

THE RIDER IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Rail Road or other purposes, made under the above Patent, at short notice, and at prices far *more economical* than the best wood structure, and on *certain conditions*, the first cost may be made the same as wood.

Models, and pamphlets giving full descriptions of the RIDER BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, **74** BROADWAY, *up stairs*, or of W. RIDER & BROTHERS, **58** *Liberty Street*, where terms of contract will be made known, and where orders are solicited.

M. M. WHITE,
November 25, 1848. Agent for the Company.

CAR MANUFACTORY,
CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, October 2, 1848. 41tf

RAILROAD IRON.

THE MOUNT SAVAGE IRON WORKS, Allegheny County, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron.—Communications addressed to either of the subscribers will have prompt attention.

J. F. WINSLOW, President
Mount Savage Iron Co., Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.

November 6, 1848.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.
New York, Sept. 16. 1848, 39tf
Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.
September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS FOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr W. C. Fuller in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

DIRECT ACTION ENGINES

FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,

AND ALSO

THE ANNULAR RING PISTON ENGINES, of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,

CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.

January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.

August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--

BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.

New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive Locomotive Engine department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.

April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

RAILROAD IRON.

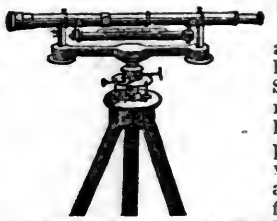
THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.

New York, October 25, 1848. tf

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,

Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tt

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames.* and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS:
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE
Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH
for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

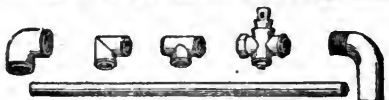
Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee
G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES
From 4 inches to ⅛ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



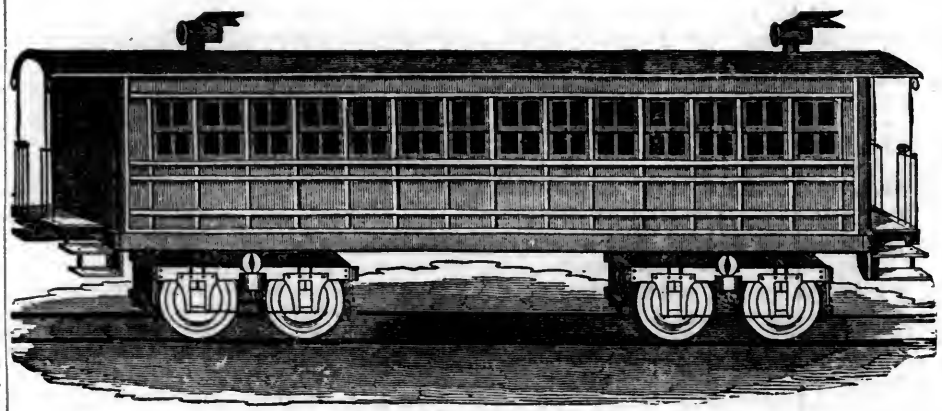
Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT.
This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10*tf*

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.
REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No 79 Water St., New York.

RAILROAD IRON, PIG IRON, ETC.
600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2¼ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.





TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

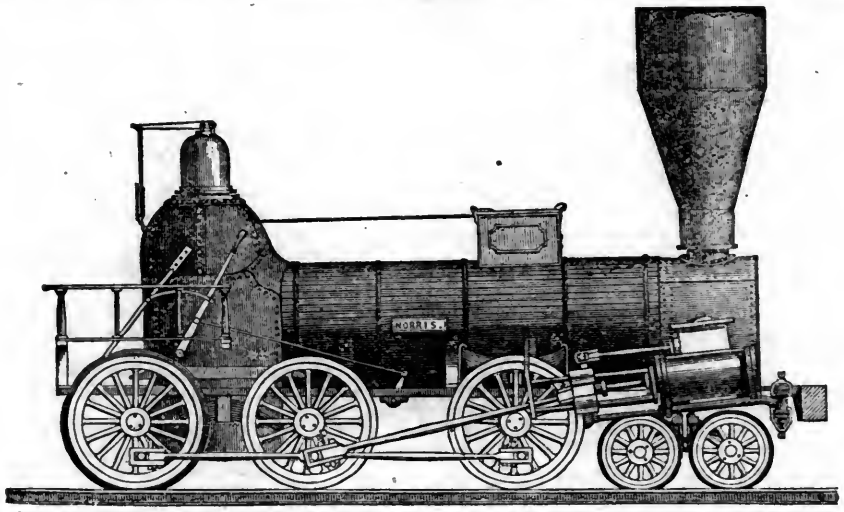
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

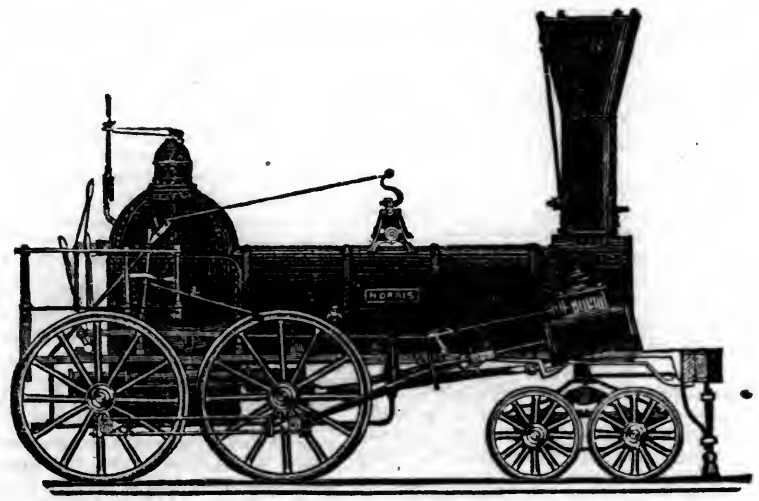
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.
Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusuml advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,

y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

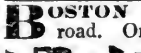
The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the


Trains will run as follows:


Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

NORWICH AND WORCESTER RAILRoad. Winter Arrangement.—1848.


Accommodation Trains daily, (Sundays excepted.)


Leave Norwich, at 6 a. m., 12 m. and 2½ p. m.

Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, JR., Sup't.

BOSTON AND MAINE RAILROAD.


Winter Arrangement.
Commencing Nov. 13, 1848.


Trains leave Boston as follows, viz: For Portland at 7 A.M. and 2½ P.M.

Great Falls at 7 a.m., 2½ and 3½ p.m.

Haverhill at 7 and 11½ a.m., 2½, 3½ and 5 p.m.

Lawrence, at 7, 9, 11½ a.m., 2½, 3½, 5, 6 p.m.

Reading 7, 9 & 11½ a.m., 2½, 3½, 5, 6, 7½ & 10 p.m

Trains leave for Boston as follows, viz: From Portland at 7½ a.m., and 3 p.m.

Great Falls at 6½ and 9½ a.m., and 4½ p.m.

Haverhill at 7, 8½ and 11 a.m., 3 and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6½, 7, 7½, 9½, 11½ a.m., 1½, 3½, 7½, 9, p.m.

MEDFORD BRANCH TRAINS.

From Medford at 6½, 8, 10½, a.m., 2, 4, 6, 9 p.m.

From Boston at 7½, 9½ a. m., 12½ 2½, 5½, 6½, 10 p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, Nov. 7, 1848.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1¼ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½

Way points in proportion.

* *PITTSBURG, GETTYSBURG AND HARRISBURG.*

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5¼ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NEW YORK & PHILADELPHIA.

NEW JERSEY RAILROAD & TRANSPORTATION CO.—

6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11½ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price,
Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares,	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

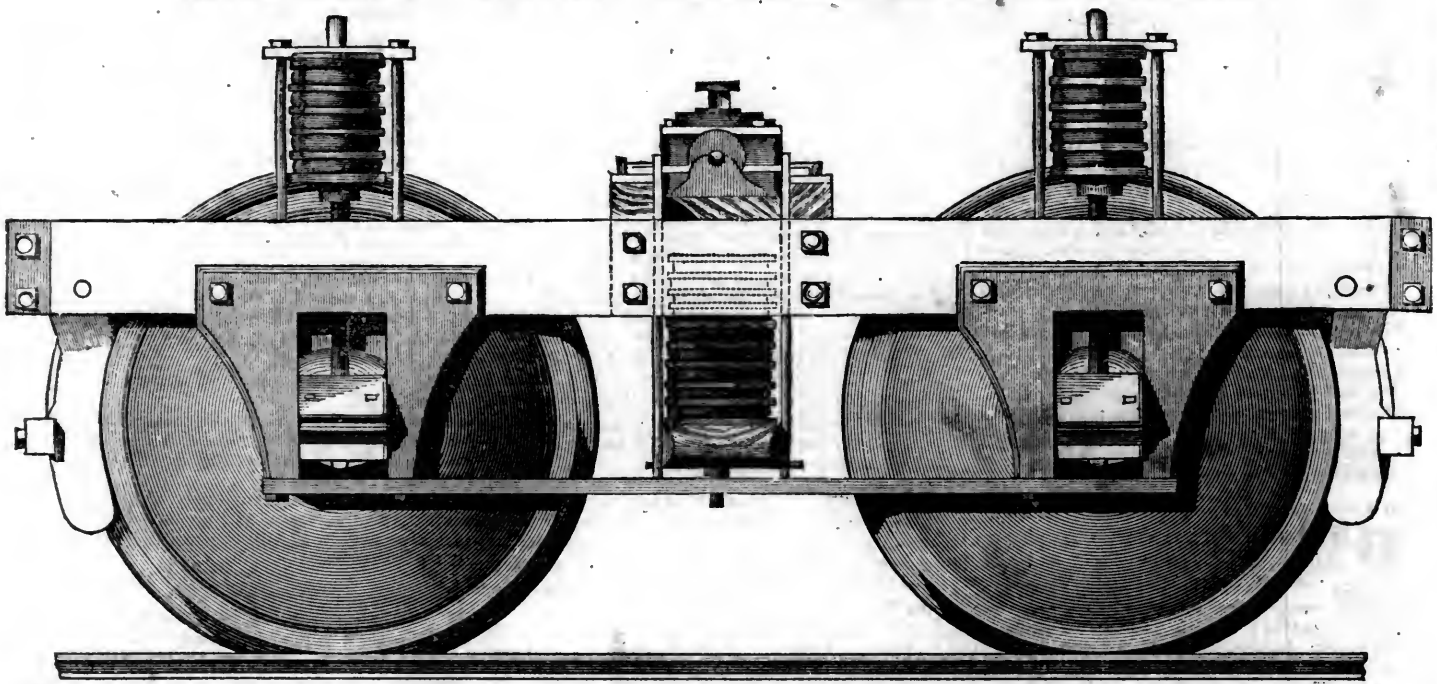
Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FOWLER M. RAY'S

METALLIC INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Ruhber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation on its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One column " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, December, 9, 1848.

AGAIN AT OUR POST.

After an absence of several weeks from the city, and the immediate supervision of the business of the office, we are again at the desk, and shall endeavor to reply promptly to the current demands upon our attention, and also to such communications as may have been received, and remained unattended to, during our absence.

☞ To those who have so generously responded to our call, made in September last, for the amount due up to the close of *the current volume*, we desire to return our grateful thanks—as they have enabled us to get on smoothly thus far—but as there appears to be serious obstructions *ahead*, on the track, between this and the station, we must remind those who have not yet remitted the small balance due, that we *have* not, and *shall* not forget *them* if they do *us*, and the Railroad Journal. And that they may not *desire* to forget us, *or* the Journal, we would recommend an immediate remittance, and then they will be sure not to forget either us nor the Journal. Send by *mail*, at *our risk*, and never mind the *postage*.

The Pittsburgh Gazette, of 4th instant, says it is "a fact worth knowing, that if the Pennsylvania Central railroad is extended to Pittsburgh within two or three years, and the Pennsylvania and Ohio railroad to Mansfield, in the same time, all of which can be easily accomplished, Philadelphia will have the first *continuous and direct* railroad communication with the great west, enjoyed by any city in the United States. She will then have access to all the interior of Ohio, and enjoy a direct railroad communication with Lake Erie, with Cincinnati, and possibly by that time—and if not, shortly after—with both northern Indiana and Chicago."

Extension of Louisa Railroad to Richmond.

"At a meeting of the citizens of Richmond, says the Republican, of 5th inst., friendly to the extension of the Louisa railroad from the Junction to this city, held at Odd Fellows Hall, on Friday night, on motion of James Lyons, Esq., Gen. Bernard Peyton was called to the chair, and R. H. Gallaher appointed secretary.

"After a few appropriate remarks from Mr. L., setting forth the importance of the proposed improvement, and alluding to the ultimate extension of the Louisa road to the Ohio, he moved an adjournment over to Tuesday night—as the meeting, owing to the inclement weather, was too small to do justice to the object in view."

Would it not be better to work westward first, to the Ohio river, before working eastward? It so seems to us. Use the road now in operation until the *Ohio* is tapped, and then talk about a rival line to Richmond. This is our advice.—[ED. R.R.J.]

Changes Produced by Railroads.

There is much truth in the following remarks of the editor of the Scientific American, and of an English paper:

"The full influence which the passenger and traffic railway is to exert on the relations of society is far from being developed, but it is already great.—Its agency is already felt in every department of public and private business. Its speed and punctuality are changing the habits of domestic life, the arrangements of commerce both in detail and in the gross, and even the civil and military organisation of states.

"Whoever has stood on an eminence that commands an extensive view of any of our main trunk lines, with its subsidary branches, in the vicinity of some great centre of industry, must have been struck with its power of annihilating distance. At brief stated intervals the graceful white steam cloud, waving on the wind, like some chivalrous banner, marks the progress of the train along the central line while similar steamers, converging to it on every side, mark the approach of its tributary tenders. It is this organised system of intercourse that enables men in every department of commerce and public service to command for themselves and families the healthiness and the amenity of a rural life, whilst engaged in those pursuits which can only be successfully followed amid the close, dim and jostling thoroughfares of a city. Even the poor laborer participates in the benefits conferred by this new agent of intercommunication by the extension of the sphere within which he can make his toil available.

"Whoever has occasion to frequent the resorts of business must have noted the insensible change which the railways are producing in its arrangments. To take the first illustration which presents itself, we may refer to our country merchants who used to lay in goods at considerable intervals, and on a comparatively large scale. Now scarcely any of them keep large stocks on hand; by the aid of the railway they receive supplies they immediately want at intervals throughout the year. They are thus less subject to speculative uncertainties of price, less exposed to loss by injuries of accident to their stock, and more able to conduct their business on a safe ready money system. The change is great from the method of some ten years back. In every department of commerce changes more or less akin to this can be traced to the agency of the railroad."

Railway Accidents.

It is almost incredible to those who read of railway accidents in the newspapers that the number of persons injured by railways is *comparatively much* less than formerly, when the travel was by post coaches and private carriages. The number of passengers, says the London Railway Chronicle, according to the return recently published, who have travelled by railway during the half year ending on the 30th of June last, amounted to 26,330,492, which is just about the population of England, Ireland and Scotland—and some idea may be formed of the tide of human beings who have passed over the country, as Mr. Locke says "by means of two parallel pieces of iron," when we reflect that the official numbers actually represent the transmission of every man, woman and child in the United Kingdom a certain distance, within the short period of six months, at a speed previously unattainable, and reduction of danger, considering the mass of human beings thus transferred, almost infinitessimal. The number of accidents figure 189; 90 resulted in death, and 99 in injuries more or less severe. Of passengers, 6 unfortunately were killed, and 60 hurt from no fault of their own, a wonderful small proportion when we

consider the enormous aggregate who now use this mode of locomotion; the remainder of the casualties is made up from accidents to railway servants, laborers on the lines in construction, and persons who have taken this novel mode of committing suicide, by precipitating themselves from trains or into their way, and who, in fact, have as much to do with the safety of railway travelling as a man blowing out his brains has to do with the safety of fire arms.

Postoffice Department and the Railroads.

From the newspapers we learn that an amicable arrangement has, at length, been made, between the postoffice department, and the Richmond, Fredericksburg and Washington railroad and steamboat company, by which the southern mail will be hereafter sent in a direct line, instead of by the Bay route—or rather on the *radii*, instead of the *circumference* of a circle. The National Intelligencer of 4th inst. says "It is with no ordinary satisfaction that we inform our readers that the quarrel between the postoffice department and the railroad and steamboat companies, between this city and Richmond, and which has so much interfered with the transportation of the southern mails, to the great inconvenience of the public, have at length been satisfactorily adjusted—and that the transportation of the mails by that line as formerly, will be resumed on Monday, the 4th of this month." And the Richmond Republican says "It now seems to be certain that the arrangements, for restoring the carrying of the great northern mail to the railroad company, have been completed, and will take effect on Monday next. The Enquirer states that the company have reserved the privilege of changing the schedule on giving sixty days notice, and that the new arrangement has been made to the satisfaction of the James river and Bay line, which has faithfully done its duty. This is a subject of real congratulation to the public. We trust we may never witness another such collision between the parties concerned, as that which has vexed the people for the last 18 months."

We fully concur with the editor of the Republican, and trust that the postoffice department will hereafter endeavor to sustain and advance the railroad interest, rather than to break it down. No important interest in the country better deserves the fostering aid of government than that of railroads. Their *influences* are felt by *all*, and in no way more directly than through the transportation of the mails.

Progress of Railroads in the United States.

"*Rome and its Trade.*—For the last few weeks, says the Coosa Journal, business has been very active.—Our merchants, all eager for the purchase of cotton have advanced the price to the highest possible rates. We are beginning to hear the whistle of the steam engine in the neighborhood of town, the road is nearly completed to the depot, and the steamboats are daily looked for at our wharf. In short everything is life and activity."

Thus we shall often read of the "railroad whistle" and its influences.

The citizens of stark and Wayne counties, says the Cincinnati Gazette, are raising the requisite stock to make the Central railway from Pittsburg west through Bellefontaine to Indianapolis. This enterprise is pushed with becoming energy.

"At a public meeting held at Alexandria, Va., on the 17th ult., it was resolved to organize a company under the Virginia charter to construct a railway from Alexandria to Orange, and to obtain from the city of Alexandria, for that purpose, a subscription to 100,000 dollars of the stock. A resolution was also unanimously adopted, for extending this line of road to Guyandotte, and thence on to Memphis, Tenn."

This would be an important matter to Alexandria, and the country through which it would pass; and as it would seem that Virginia cannot construct a railroad from Richmond to the Ohio at Guyandotte, we hope this line may find more favor with the people.

The people in the west, northwest and southwest, says the Cincinnati Gazette of November 25th, are alive to the subject of railways. A road from Mobile to the Ohio is not only discussed, but measures have been taken to commence the work at Mobile, and proceed north to Nashville. And our neighbors at Louisville are on the alert to secure a termination on the Ohio at that city—and their Indiana neighbors unite with them in a project to cross the Ohio at Louisville, and proceed northwest toward lake Michigan and Chicago. One reason urged and openly avowed for vigorous action at this time on this matter, is to prevent the construction of a line direct from St. Louis to Cincinnati, as well as to cut us off from the Southern road. They expect this to cause the business and travel of these States to make Louisville a point! This is all right in them. We like the enterprise of our neighbors. If they keep awake and act while our people sleep they deserve success.

The city council of Louisville have directed their attention to this subject. Gen. Pickering, president of the railway companies from New Albany to Alton, has been before the council, to present the subject. The Courier says:

"He spoke strongly in favor of the road, and hoped the citizens of Louisville would act in concert with the projectors of the road. The state of Illinois has granted a charter to the road, and if completed would defeat the contemplated road from Cincinnati to St. Louis. The attempt of the proprietors of the latter road failed last winter to get a charter, and now is the time for our citizens to act for their own benefit. He stated that the contemplated cost of the road from Alton to the Ohio river would be but little upwards of $2,500,000."

These are not the only railway projects designed to divert trade and travel from our city. Strong efforts are making to push forward a railroad from Pittsburg through Massillion, Wooster, Bellefontaine, etc., to Indianapolis, etc. A part of this line is under contract. Our neighbors of Dayton, are engaged in laudable endeavors to make their flourishing city a point on this line, and to make a connection with Sandusky by the Mad river road, and with Columbus, and the points east by a connection with Xenia. This again is all right. Our neighbors look to their own interest, and their enterprise will meet its just reward. All these plans have a tendency to divert business from Cincinnati, and if not counteracted by some energetic movement to push forward our own works, may seriously affect our prosperity.

We have a railway in view from this city to St. Louis, but so little interest is felt in it, that it was found difficult, to raise our quota of the small sum required to survey the route. But this has been lately accomplished, in the main, by the contributions of persons least likely to be benefitted by the work, and an engineer is now on the line."

The people are moving in all directions, in favor of railroads, and their extension during the next ten years will surprise many who now think themselves quite in advance of the age.

Cleaveland and Columbus Railroad.—The following notice of the commencement of operations upon this important line of communication is from the Cleaveland Plaindealer:—

"*Clear the Track! The Locomotive is coming.*—It is already known that the Boston company which built the Great Western railroad from Boston to Albany, through mountains, over rivers, and through the worst country in the world almost, have taken the contract to build the Cleaveland and Columbus railroad in two years. They have the experience, enterprise and ability to do it and it will be done. The whole route is in the hands of sub-contractors 36 miles we understand, leading out from this city, let to Leander Ransom, and another of the old Ohio canal contractors, good men and true. The note of preparation is now sounding along the whole line, and the work is fairly begun. From Columbus to Xenia, the work is already under contract and progressing."

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 25th ult., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Nov. 28	2,357 09.	214,525 12
By Room Run ....."	1,908 12.	119,892 12
By Hazleton.....	931 00..	86,485 00
By Beaver Meadow.....	1,155 18..	82,384 09
By Buck Mountain.....	813 10..	70,975 10
By Spring Mountain.....	1,158 18..	63,127 18
By Cranberry Mines.....	1,599 00..	18,323 00
White Haven.....	68 05..	10,424 16
Diamond Co.....	214 14..	6,288 01
Total.....	9,880 06.	662,426 18

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 30th ult., and since the 1st of January, has been as follows—

	Tons.
From Schuylkill Haven.....	9,086 17
" Pottsville	3,574 05
" Port Carbon.....	6,809 13
" Port Clinton.....	2,671 11
Total this week.....	22,142 06
Total this year.....	1,161,288 13

The amount of coal brought to market by the Schuylkill canal during the week ending the 30th ult., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon.....	3,844 12
" Schuylkill Haven.....	3,000 00
" Port Clinton.....	800 00
Total this week.....	7,644 12
Total this year.....	428,068 16

Recapitulation.—Total Shipments this Season.

By Lehigh companies.....	672,426 18
By Reading railroad.....	1,161,288 13
By Schuylkill canal.....	428,068 16
Total.....	2,261,784 07

Pennsylvania Railroad.

Second Annual Report.

We find in the Ledger of 5th inst., the following synopsis of the report made by the president to the shareholders of this company. It is a concise, clear, and manly statement of the condition and requirements of the company to complete this noble, and to *Philadelphia, necessary* work—and the *capitalists* of Philadelphia must come up to the work, and furnish the balance of means necessary to complete the road, at the earliest possible period, if they desire to advance as Boston has—or even to hold their own like New York—during the past seven years as set forth on another page in the article on "Railroad Progress."* Of the correctness of the estimate of the

* The article here referred to is deferred until next week.

increased value of property in Boston, as set forth in that article, in consequence of the construction of the Massachusetts railroads,—over and above what it would have advanced without them—we have not the slightest doubt, and we fully believe that similar results would follow upon a similar course of measures by the people of Philadelphia; and we trust therefore that those having the ability will enable the company to push on the work along the whole line, and to completion at the earliest possible period. We now give the synopsis and shall at an early day give the report entire.

"The second annual meeting of the stockholders of the *Pennsylvania Railroad Company* was held at the office of the company, in this city, yesterday. To this meeting the president of the company presented a lucid and very satisfactory report of the progress that has been made in the great work, the receipts and expenditures, and an estimate of the probable future cost of the road to completion. The object of this company, our readers know, is to connect the cities of Philadelphia and Pittsburg, by a continuous line of railroad—thus openiug a direct line of communication from the valley of the Mississippi to the Atlantic seaboard. The importance of such a work to the state and to our city is apparent to all, and fully accounts for the interest felt in the progress of the magnificent undertaking. We learn from the report presented yesterday, that the amount received from instalments paid in is - - - $1,623,710 09
Of which there has been expended, 1,108,269 31

Leaving a balance of - - - 515,440 69
Instalments to be collected, - - 1,520,000 00

Funds for the prosecution of the work, $2,035,440 69

The estimate of the whole road, graded for double track and single track laid, including road over the mountains, depots, locomotives, cars, &c., is $11,140,000. This estimate is for the heaviest trade. But to make the road available to the trade of the country for the entire distance, the whole expenditure is estimated at $7,860,000. Of this sum, there has been subscribed $5,250,000, leaving to be subscribed $2,610,000. The work is naturally divided into two sections; from Harrisburg to the base of the mountains, connecting with the road to Johnstown, forming a line of two hundred and eighty miles long; and from the western base of the mountains to Pittsburg, seventy-six miles, making three hundred and fifty-eight miles as the whole distance between the two cities of Pittsburg and Philadelphia. As there is some doubt of the requisite funds being available as fast as wanted, to complete the whole work, should the entire line be simultaneously placed under contract, the board of directors has applied its whole means to the eastern division, keeping the work as connected as possible, that each section may be made available for dividends as fast as completed. By this policy it is thought the work may be opened to Holydaysburg by next spring a year. The estimated cost to this point complete, is $4,066,200—
on which has been expended, - - $1,063,697
Funds in hand and outstanding instalments, 2,035,440
Am't required to complete eastern section, 967,063

Estimated cost of the western division, $2,451,248
On this there has been expended but, 46,004
Allegheny county has subscribed 1,000,000
As Philadelphia's additional subscription of $1,000,000 by the ordinance cannot be made available until 100 miles of the road shall be in use, that sum is set down to the western section, as is also $50,000 additional subscription on the line, - - - - - - - 1,050,000
Leaving a deficiency to be raised of - 355,043

These united deficiencies of 1,322,106 dollars, to complete sections, and about 600,000 to equip the road for business to Holydaysburg, will require an additional subscription of *two millions*, and which if promptly made, the whole road may be in action by the spring of 1851. The report presents the importance of the crisis in this undertaking to our citizens in the strongest light, urging the necessity of individual subscriptions. As regards the city of Philadelphia, the report declares in express terms that it "has already subscribed as large a proportion to the capital as would, under any circumstances, be sanctioned by the citizens, or as is desired by the company.—*Under no contingency, therefore, is it expected that its corporate subscription will be increased.*" This is frank and wise, and while our capitalists and business men are fairly informed what is expected of them, the credit of the city is relieved from the depressing apprehension of a further increase of debt. A matter that has worked some inconvenience to the company, from the fact that the ordinance prohibits the disposal of the city's six per ct. bonds at less than par. It is doubted whether there is a safer investment in the union than the bonds issued on account of this subscription by our city, and yet from some cause, they will hardly bring par, while the loans of the Government, which can be no better, are at a premium of about six per cent. Although individual subscription to this work is urged upon the business community as a means of saving and extending trade, many facts are presented, indicating that subscription to this road will prove a sure and profitable investment."

Plank Roads not duly appreciated.

We have occasionally referred to, and published descriptions of plank roads, but never until our recent excursion in central and western New York, have we had an opportunity to test their value and convenience to the traveller and the farmer. Let any man, accustomed to railroad travelling, be compelled to make an excursion of twenty or thirty miles in a post coach, in either direction from the railroad westward from Albany, during the *rainy* season, and he will *fully* appreciate the comforts of railway travelling, though they may not make more than *sixteen miles an hour*—at a cost even of *four* cents a mile. And if he is so fortunate, after having been dragged for *seven* or *eight* hours through the mud, at the rate of nearly *three* miles an hour, as to come upon a section of *plank* road, where the same team will take him, with ease, *six* or *seven* miles an hour, we have no fear but that he will ever, after such an event, be a strong advocate of *plank roads*. Such at least were our feelings, and, as like circumstances usually produce like results, we have no fear but that we may rely upon the co-operation of all sensible men, in aid of plank roads, who happen to get caught, as we were, in a stage *wagon*, between Antwerp, in Jefferson county, and Denmark, in Lewis county, N. Y., on the night of the 23d of November —when we were seven hours and a half in riding 22 miles, and four hours and a half in riding 13 miles next day to Martinsburg—*dreary hours* those to a lover of railroad travelling; and *delightful* indeed was the change from that sort of travelling to a good plank road, *forty miles* between Leyden and Rome, which was performed in less than seven hours, including stops! That is the way to make converts to that sort of travelling; if our readers do not believe it, let them try the experiment, if the following article from the Utica Herald is not satisfactory.

"*Our Plank Roads.*—Never was a better investment made than that which has been embarked in plank roads by the citizens of Utica. The appearance of our streets, crowded daily at this naturally unfavorable season, with well filled wagons laden with lumber, manufactured goods, butter, cheese, grain and other staple produce of the country, and by people from the country coming to trade with our merchants, affords perfect evidence of the wisdom of the policy which dictated the liberal expenditure of money in the construction of these roads.

"At this period of the season, one year ago, our streets wore the appearance of the Sabbath. The wares of the merchant lay gathering dust on his shelves; the produce of the farmer was diverted from our city by more accessible communications with other outlets to market, and no lumber found its way to the city except through the channels of water communication. Wood, that indispensable article of domestic comfort in this inhospitable season, came to the city in small quantities from the surrounding country and commanded prices which rendered it almost too great a luxury for common consumption. It was not only a pinching time for the poor, but the inconvenience of being cut off from easy communication with the country was seriously felt by all classes of our inhabitants. The notes of the merchant given in anticipation of the fall trade fell due, but his wares remained unsold on his shelves and counters. Extensions of time, bank accommodations and in many cases usurious loans, had to be resorted to in order to avert the sheriff's call.

"That these same evils are not experienced now, is in a main degree attributed to the plank roads.—Business in our city is as active at this time as it has usually been the most favorable seasons of summer or winter. There is great store of wood, of lumber, and of all kinds of country produce in market, and prices kept at moderate rates by the wholesale competition.

"The four roads extending from our city are now, in full operation, and the amount of travel on them surpasses the estimates of their projectors. The Bridgwater road, we believe, is doing the largest business and paying the best profits. The Northern road which was the last to be completed, is doing more than double what was anticipated.—The road is some 22 miles in length, extending from the city to within a few miles of Boonville,—to and beyond which place it is to be extended next year. The route was a difficult and expensive one.

"The right of way on the old Northern turnpike, had originally to be purchased at a cost of nearly 8,000 dollars. The grades were many of them very heavy and difficult. In one place to avoid a hill, the turnpike route was abandoned, and a new passage cut round a circuit of some five miles through the woods, at an expense of 500 dollars a mile for clearing away the timber alone. The whole cost of the road was about 50,000 dollars, or upwards of 2,500 per mile, which is, we believe, nearly double the cost of the southern roads.

"The business at this time of the year is mostly the transportation of butter, cheese, wood and sawed lumber to this place for market or shipment.—Of the latter an immense amount has been brought into the city within a few weeks past. We have noticed scores of teams coming in lately laden with *planed flooring* prepared at the extensive mills of Rutger B. Miller, Esq., in Boonville, each wagon containing more than double the usual load drawn on the ordinary roads. This lumber is designed for the extensive yard of H. B. Ostrom, Esq., West Utica. The *butter* teams are equally heavy laden. The receipts for tolls at the first gate on the Northern road during the week ending on the 18th, were 90 dollars, an average of nearly 15 per day. There are three gates on the road — one, we believe for each seven miles. If the receipts continue at the same rate, the profits of the road must pay its whole cost in four or five years."

Railroad to the Pacific,

We continue in this number the letter of Mr. Whitney, commenced in our last, with copious and interesting extracts from the able report of Major Emory, showing the impracticability of a more southern route than that heretofore selected for this mighty and necessary enterprise.

(*From the Journal of Commerce of Sept. 16th.*)

NEW MEXICO AND CALIFORNIA.

Continued from page 775.

"After leaving our last night's camp for a mile, the general appearance, width of the country and soil, much resembles the most fertile parts of that river. This, so far, has decidedly the best soil, and the fall of the river being greater, makes it more easy to irrigate.—p. 63.

"Oct. 25. The general character of the country is much the same as before represented: but before camp it broke into irregular and fantastic looking mountains.—p. 64.

"Oct. 26. The whole way was a succession of steep ascents and descents, paved with sharp angular fragments of basalt and trap. The metallic clink of spurs, and the rattling of the mule's shoes the high black peaks, the dark ravines, and the unearthly looking cactus, which stuck out from the rocks—all favored the idea that we were now treading on the verge of the regions below. This day's journey cost us some ten or fifteen mules. Long and anxious was my study of these mountains, to ascertain their general form and direction. Wherever the eye wandered huge mountains were seen, of black volcanic appearance.—p 66.

"Oct. 27. Vegetation generally was very scarce. This was the first camp since leaving the Del Norte, in which we had not found good grass.—p. 67.

"Oct. 29. The dust was knee deep in the rear of the trail: the soil appeared good, but for whole acres not the sign of vegetation was to be seen.—p. 68

"The whole plain from three to six miles wide, is within the level of the Gila, and might easily be irrigated, so it no doubt was by the former tenants of these ruined houses.

"Nov. 1. No alternative seemed to offer but to pursue Carson's old trail 60 miles over a rough country without water, and two if not three days journey. We followed the Gila river 6 or 7 miles when it became necessary to leave it, how long was uncertain. The ascent was very rapid, the hills steep, &c. —p. 71.

"Nov. 2. The thermometer at daylight 25.—p. 72.

"Nov. 4. Geological formation on this slope of the Pinon Lano mountains: 1st. conglomerate of sandstone and pebbles. then red sandstone in layers a foot thick: then granite, very coarse. The depth of the first was many hundred feet, and in many cases its stratification much deranged. Many large masses of sandstone, with their seams of vitrified quartz.

"Although we had no rain except at Mount Graham, where we had a shower which barely sufficed to allay the dust, yet the whole face of the country bears marks of rains and running water.—p. 74.

"Nov. 5. The howitzers did not reach camp last night, yet the grass was so bad and our beds on the round pebbles, everywhere covering the surface of the ground, so uncomfortable, it was determined to move camp.—p. 75.

"Nov. 5. The range of mountains traversed to day is the same as we have been in for some days.—p. 75.

"Since the 1st of Nov. we have been traversing with incredible labor, and great expenditure of mule power, the stronghold of these mountain robbers, having no other object in view than making our distance westward; yet here we are at this camp only five seconds of time west of camp 89.—p. 76.

"Our camp was on a flat sandy plain of small extent, at the mouth of a dry creek.—p. 78.

"Nov. 8. The whole day's journey was through a canon, and the river was crossed 12 or 15 times. The sand was deep, and occasionally the trail much obstructed by pebbles of paving stone.

"The latitude of this camp, which is within a mile of the spot where we take leave of the mountains, is 33° 05.44, lon. 111° 13.10; height of the river above the sea, 1751 feet. Capt. Cook comes on to the same route near this point.—p. 79.

"The Gila at this point, released from its mountain barrier, flows off quietly at the rate of three miles an hour into a wide plain, which extends south almost as far as the eye can reach. More than four-fifths of the plain was destitute of vegetation; the soil a light brown, loose, sandy earth. I supposed it contained something deleterious to vegetation.—p. 80.

"The soil was moist, and wherever the foot pressed the ground, the salts effloresced, and gave it the appearance of being covered with frost. In this way the numberless tracks of horses and other animals which had at times traversed the plains, were indellible, and could be traced for great distances by the eye, in long white seams.

"In overcoming one set of difficulties, we were now to encounter another. In leaving the mountains we were informed that we bade adieu to grass, and our mules must henceforward subsist on willow, cotton-wood, and the long green ephedra.—p. 81.

"Nov. 12. Looking from our camp north, 30' west, you see a great plain, with mountains rising in the distance on each side. This prospect has induced some travellers to venture from here in a direct line to Monterey, in California, but there is neither grass nor water on that passage, and thirst and distress overcame, undoubtedly, those who attempted it.—p. 85.

"Nov. 13. At 12 o'clock, after giving our horses a last watering, we started off in a south-western direction. We travelled till long after dark, and dropped down in a dust hole near two large green barked acacias. There was not a sprig of grass, or a drop of water and during the whole night the mules kept up a piteous cry for both.—p. 88.

"We marched on briskly to the Gila, 40 miles from our camp of yesterday.

"Nov. 15. In the morning the General found the mules so much worsted by the 45 miles journey without water or food, that he determined to remain for the day.

"From information collected from the Indians and others, it appears that we shall meet with no more grass from this to the settlements, estimated 300 miles distant.—p. 88.

"Nov. 16. We descended into the wood valley of the Gila, skirted on the south side of the table land, black with basalt pebbles. The hills on the north side were of red and grey rocks, probably granite.—p. 91.

"Nov. 17. The route to-day over a a country much the same as that described. Wherever we mounted to the table lands to cut off a bend in the river we found them dreary beyond description, covered with blocks of basalt, with a few intervals of dwarf growth of lanea. We encamped down in one of the deserted beds of the Gila, where the ground was cracked and drawn into blisters The night was cold. Thermometer at 6 A. M., 20°, lat. 32 55.52, lon. 113 25 25.

"Nov. 18. High wind all day from the north-west, showing that there was still a barrier of snow clad mountains between us and Monterey, which we must turn or scale.

"Mounted the table land, and at 12½ o'clock stopped to graze our horses at a little patch of dried spear grass. Leaving this, the ground as far as the eye could reach, was strewed with the black, shining well rounded pebbles.

"At this point, which is about six miles below our camp of this date, the Gila and Colorado must be near together. The hills and mountains appeared to be entirely destitute of vegetation, and on the plains could be seen only at long intervals a few stunted tufts of lama Mexicana and wild wormwood. —p. 92.

"Nov. 20. The table lands were of sand and the bottom of the river constantly received deposits from them.—p. 93.

"Nov. 21. The plains are now almost entirely of sand, and composed of sandy and calcareous loom, with iron pyrites and common salt.

"Nov. 22. The day was warm, the dust oppressive, and the march, 22 miles, very long for our jaded and ill-fed brutes.—The General's horse gave out.

"Nov. 23. We did not move camp today, in order to make a refit from last night's capture, and gave our mules an opportunity to take what little grass they could before taking the desert of 90 miles, which lies on the other side of the Colorado, and between us and the water.—p. 95.

"Visit the junction of the Gila and Colorado, due north from the camp 1½ miles distant. The day was stormy, wind blowing fiercely from the north. We mounted a butte of feldspatic granite, and looking 25° east of north, the course of the Colorado was tracked by clouds of flying sand.

"Francisco informs me that the Colorado, seven days up from from the butte continues pretty much as we saw it.—p. 96.

"Nov. 24. The country from the Arkansas to this point, more than 1200 miles, in its adaptation to agriculture, has peculiarities which must forever stamp itself upon the population which inhabit it. All of North Mexico, embracing New Mexico, Chihuahua, Sonoro, and the Californias, as far north as the Sacramento, are, as far as the best information goes, the same in the physical character of its surface, and differ but little in climate and products.

"In no part of this vast tract can the rains from heaven be relied upon to any extent for the cultivation of soil. The earth is destitute of trees, and in great part also of any vegetation whatever. A few feeble streams flow in different directions from the great mountains, which in many places traverse this region. These streams are separated sometimes by plains, and sometimes by mountains, without water and without vegetation;

and may be called deserts, so far as they perform any useful part, in the sustenance of animal life.

"The cultivation of the earth is therefore confined to those narrow strips of land which are within the level of the waters of the streams, and where practised in a community with any success or to any extent, involves a degree of subordination and absolute obedience to a chief, repugnant to the habits of our people.

"The chief who directs the time and the quantity of the precious irrigating water, must be implicitly obeyed by the whole community. A departure from his orders, by the waste of water or unjust distribution of it, or neglect to make the proper embankments, may endanger the means of subsistence of many people. He must therefore be armed with power to punish promptly and immediately.

"The profits of labor are too inadequate for the existence of negro slavery. Slavery as practised by the Mexicans under the form of peonage, which enables their masters to get the services of the adult while in the prime of life, without the obligation of rearing him in infancy, supporting him in old age or maintaining his family, affords no data for estimating the profits of slave labor as it exists in the United States.

"I made many inquiries as to the character of the vast region of country embraced in the triangle formed by the Colorado of the west, the del Norte, and the Gila. From all that I could learn, the country does not differ materially in physical character from New Mexico, except perhaps being less denuded of soil and vegetation. The sources of the Salinas, the San Francisco, Azul, San Cælas, and Prierte, tributaries of the Gila, take their rise in it. About their head waters and occasionally along these courses are presented sections of land capable of irrigation.

"The whole extent except on the margin of streams, is said to be destitute of forest trees.

"Departing from the ford of the Colorado in the direction of Sonora, there is a fearful desert to encounter. All accounts concur in representing the journey as one of extreme hardships, and even peril—distance represented at from 4 to 7 days journey.—p. 98.

"Nov. 25. After crossing the Colorado we ascended the river ¾ of a mile, when we encountered an immense sand drift. The great highway between Sonora and California lies along the foot of this drift which is continually but slowly encroaching down the valley.

"Nov. 26. The dawn of day found every man on horseback, with a bunch of grass from the Colorado tied to his saddle. After getting under way, the keen air 26° Farenheit, made it comfortable to walk; we were now fairly on the desert.—p. 100.

"The desert over which we had passed, ninety miles from water to water, is an immense triangular plain, bounded on one side by the Colorado, on the west by the Cordilleras of California, the coast-chain of mountains which now encircles us, extending from the Sacramento river to the southern extremity of California, and on the north east by a chain of mountains running south-east and north-west. It is chiefly covered with floating sand, the surface of which in various places is white, with diminutive spinelas.—p. 102.

"I have noticed the only two patches of grass found during the "jornada."

"The southern termination of this desert is bounded by the Tecate chain of mountains and the Colorado; but its northern and eastern boundaries are undefined, and I should suppose from the accounts of trappers, and others who have attempted the passage from California to the Gila by a more northern route, that it extends many days travel beyond the chain of barren mountains which bound the horizon in that direction.

"The portal to the mountain through which we passed, was formed by immense buttes of yellow clay and sand, and large flakes of mica and seams of gypsum. Nothing could be more forlorn and desolate.—p. 103.

"Nov. 29. The day was intensely hot, and the sand deep. The animals inflated with water and rushes gave way by scores.

"Nov. 30. We ascended the valley now destitute of both grass and water, to its termination, and then descended to the deserted Indian village of San Philippe. The mountains on either side are lofty, supposed 3000 to 5000 feet high.

"About 9 miles from the camp, we passed the summit which is said to divide the waters flowing into the Colorado from those flowing into the Pacific, but I think it is a mistake.—p. 104.

"We are still to look for the glowing pictures drawn of California. As yet barreness and desolation hold their reign.

"Dec. 2 and 3. We commenced to ascend another "divide;" leaving the valley, we ascended the hills to the north; our progress was slow and painful. Descended and visited Indian huts; inmates in great poverty. Thermometer 30°; had no fires, and no covering but sheep skins. p. 105.

"Dec. 4. The appearance of desolotion which the rancheria presents is little calculated to impress us with favorable notions of the agricultural resources of this part of California. The land in the narrow valley is good, but surrounded every where by high barren mountains, and where the land is good, the seasons are too dry for men to attempt cultivation without facilities for irrigation. p. 107.

"Dec. 5. Received dispatch from San Diego. It was long after night when we halted, and though there may have been plenty of grass, we could not find it. What we did see of the country during the day, did not impress us favorably as to its fertility.

"Dec. 11. Our road leading through a rolling country, of light black soil, destitute of trees and without water. p. 112.

"Dec. 12. At San Diego. The bay is a narrow arm of the sea, indenting the land some four or five miles, easily defended, and having 20 feet of water at low tide. The rise is said to be five feet, making the greatest water 25 feet.

"The Rio San Diego runs under ground. Its original debouch was into False bay, where, meeting the waters rolling in from seaward, a bar was formed by the deposit of sand, making the entrance of False bay impracticable.

"Well grounded fears are entertained that the immense quantity of sand discharged by this river will materially injure, if it does not destroy the harbor of San Diego; but this evil could be arrested at slight cost compared with the object to be obtained. However, the commercial metropolis must be at St. Fracisco, owing to the greater extent and superiority of the country adjacent. p. 113.

"Vessels may ride at anchor in the harbor perfectly land-locked, but in very heavy southerly gales some inconvenience may be felt by those not provided with good ground tackle, from the immense volumes of kelp driven into the harbor. p. 115.

To be Continued.

Baltimore and Ohio Railroad.

Twenty-Second Annual Report.

We are forcibly reminded, on our return to the desk, after an absence of several weeks, of the rapid flight of time, by the appearance of a document which we have long been accustomed to look for with interest, and to peruse with pleasure and profit; and we have looked with an interest greater than usual, for this report, as it is to be the last emanating from the able and honorable gentlemen who has for so many years past, and so successfully, presided over the deliberations of the directors, and the affairs of this pioneer company in the introduction of railroads into this country. On looking through the report, we find that the past year has given, notwithstanding the low price of the productions of the country, a handsome increase of both gross and net receipts on their business; and it is gratifying to us to be able to call attention to the fact that the income of the road has more than *trebbled* during the period, ten years, of Mr. McLane's administration; and if he has been prevented by the jealousy of a neighboring state, from carrying the work through to the Ohio river, and thus accomplishing the great object which he had in view, when he accepted the post tendered to him by the company, he may with pride refer to his last report, which we now give to our readers, and say that the income has been more than trebbled, the older portions of the road have been nearly reconstructed, and greatly improved, and the main difficulties of its extension and completion are removed; now let my successors do as much in the same period, and the city of Baltimore will be in possession of advantages for the western trade surpassed only by New York.—And he may be well satisfied with his efforts to advance the great interests of the city of his adoption, and of that portion of the great west looking to this line for their communication with the Atlantic. We trust that relaxation from the active duties of a station of so much labor and anxiety will restore his health and that he may still give to the company, the benefit of his large experience and sound judgement.

ANNUAL REPORT.

At a meeting of the stockholders, held pursuant to the charter, on the second Monday of Oct. 1848, in the city of Baltimore, the president and directors of the Baltimore and

Ohio railroad company submitted the following report and statement of the affairs of the company:

First, of the Main Stem.—The affairs and operations of the company are stated in the accounts and statements herewith submitted prepared by the treasurer, and in the letter or annual report of the chief engineer, acting as general superintendent, dated 1st inst.

The statement A shows the condition of the company's affairs on the 30th ult., and the revenue and expenses of the *main stem*, for the year ending on the same day, are shown by the satement B.

In addition to those documents it will be only necessary succinctly to point the attention of the stockholders to the general and principal results which they exhibit.

It will appear that the gross income from the *main stem*, for the year ending September 30th, 1848, has been $1,213,664 57; the total expenditure properly chargeable thereto $662,106 50; and the net revenue $551,558 07; showing an increase over the preceding year of $111,727 99 in the gross income; $71,277 52 in the expenditure, and $40,450 47 in the net revenue.

With the net revenue of $551,558 02, equal to about 8 per cent. on the capital stock, the board might have declared a handsome dividend in money among the stockholders but for the reasons presently to be noticed.

The board, however, have determined in lieu of dividend to increase the capital stock of the company to the amount of the revenue applied during the year to reconstruction, including the extension to the south side of the basin, the alterations in the bed of the road and to surveys and right of way, and to give to the stockholders certificates or scrip therefor, pursuant to the terms of a resolution adopted by the board on the 7th inst.

The capital of the company, at least all that could be made available, was, as is well known, exhausted before the main stem was completed to Cumberland, and adequately stocked with motive power and machinery. To supply the deficiency it became necessary to use the revenue, when neither the bonds of the state nor those of the company, payable at remote periods, could be negotiated.

For some years, the board were able, after appropiating a portion of each year's net revenue to the above objects, to divide the balance among the stockholders.

During the years, ending respectively September 30th, 1846, and September 30th, 1847, the demands upon the revenue for purposes to which capital, had it not been exhausted, or could it have been made available, would have been applied, were so heavy that the board, as the stockholders are aware, while they declared the usual dividend, were obliged to make a large portion of it payable in the bonds of the company; and during the year just ended, the necessity of a still further increase of the motive power and machinery, and of putting the road on the best and most permanent footing, in view of the business constantly accumulating upon it, have not only absorbed the entire revenue of the year, but caused engagements to be entered into which must be met out of the year to come. Hence it is that no dividend in money is at this time declared on the capital stock of the company.

When the board undertook to do what has just been adverted to, and what will be presently detailed, they expected to be able to use the credit of the company so as, at all events, to obviate the necessity of any charge upon the income of the year ending September 30th, 1849. But it was found that this could not be done without a greater sacrifice of the company's bonds that would have been at all advisable; besides which, in the then condition of the market, the appearance of the company as a seller, to any extent would have impaired the value of the bonds in the hands of contractors who had agreed to receive them at par, in payment for work—which was on every account to be avoided.

The expenditures properly chargeable to capital, and here particularly referred to, have all had reference to the permanent increase of the business of the road and the most profitable transactions of it, were imperiously called for by the demands of the public, and will realize to the company in an addition to its property and effects and in increased facilities in its daily operations, more than an equivalent to the amount of the outlay.

With this view the board deemed it necessary to add largely to the motive power and machinery; to proceed with the reconstruction of the old, imperfect, and worn out road; to change the original and defective location of the track east of the Monocacy, so that there should occur upon it no curve of less radius than six hundred feet; and to extend a branch road to the south side of the basin, on which the transportation, not intended for distribution in the city, might be done by steam to the water's edge, and much of the horse power in the streets be saved and other serious inconveniences avoided.

The demand for transportation eastward from Cumberland, in 1847, far exceeding as it did, owing to peculiar causes, the experience of previous years, admonished the board of the absolute necessity of providing, by the purchase of additional cars and engines, against a contingency which, having occurred once, might occur again, and when ignorance could not, a second time, be pleaded as an excuse for not being prepared to meet it.

Large as was the increase of the company's business in the year ending in September 1847, the business of the year just ended has, as already shown, exceeded it,—and this under a diminution in the price of produce of every description,—showing how unsafe, indeed how inexcusable, it would have been for the board to have looked upon the demand for transportation in 1847, as temporary, and as too unlikely to occur again to require any unusual expenditure upon the part of the company. Had the board been disposed to take this view, the suits brought by those who claimed damages consequent upon the company's inability to bring their live stock from Cumberland as fast as it arrived there, would have sufficiently admonished them of its danger. And although the board are advised and believed that the company could not be visited with the consequences of an emergency which could not have been forseen, yet they are also advised, that with the notice that had been given them of a possible demand upon them, it would be at their peril to neglect it. While the purchase of cars and engines was an actual addition to the motive power of the company, the reconstruction of the road so as to increase the safety and facilitate its use, and to avoid all curves of less than six hundred feet radius was a virtual addition to it—for the work which the alteration and improvement would enable each engine to do over and above the limit of its performance on the old track, with curves of radii as small as four hundred feet, and in some cases, even less, would be equivalent to adding to the number of engines, and ultimately make up, in annual profit to the company, the cost of reconstruction. Nor would be the only gain the saving of wear and tear on all the engines and cars of the company, and the lessening of the risk of accidents being alone sufficient to justify the necessary expenditure.

Nor was it less necessary to provide for the distribution of the freight thus brought in increasing quantities to the border of the city of Baltimore, than it was to provide means for transporting it from Cumberland and other points on the main stem. It is well known, that even heretofore, in the busy season, it has been by the greatest exertions only, and by working day and night, that the track in Pratt street has been sufficient for the passenger and burthen business of the company; and, although the city authorities permitted steam to be used in the streets, yet it was under restrictions which made the ordinance practically useless.

It became necessary, therefore, in the opinion of the board, as a part of their general purpose, to provide such an access to the water's edge with steam power, relieved from the objections attending all street transportation, as will be furnished by the track leading to the south side of the basin. In view then of the objects to be accomplished, and for the reasons here given, the board ordered 10 engines of the first class, and purchased 2 of the second and 1 of the third class, 28 passenger and 171 burthen cars, at a cost of $240,348, and they put under contract such portions of the main stem as required immediate improvements in the road bed, and the branch to the south side of the basin; the estimated cost of the former being $200,046, and of the latter $143,503—making a total proposed extra expenditure of $583,897.

As this, necessary as it was, in addition to the expenses for interest, &c., exceeded any probable amount of net revenue, it became important that the contracts for the gradation and masonry of the reconstruction and extension should be made payable, as far as possible, in bonds falling due at remote periods, provided this could be done on terms compatible with the interests of the company. Proposals were invited accordingly and con-

tracts in every way satisfactory, payable in bonds, were soon after executed and the work was commenced.

Of the whole sum expended during the year on account of the reconstruction of the track ordered in previous years, $13,838 02 was paid in bonds, $200,046 for the alterations in the bed of the road, and $89,004 on account of the extension of the track to the south side of the basin, are payable in like manner; and in each case the payments are made in bonds at par, and for amounts within the estimates of the chief engineer.

Up to the 30th September there had been delivered 7 engines, 16 passenger and 171 burthen cars, on account of which there had been paid $150,653 37. The reconstruction of the track may be said to be finished, on account of which bonds falling due January 1st, 1867, for $13,838 02, and $164,645 23 in cash had been paid during the year.—About two-thirds of the gradation and masonry of the "improvements" in the road bed had been completed on account of which, $113,062 74 in bonds falling due January 1st, 1867, had been issued; and $16,534 60 had been paid in money on account of right of way and superintendence. The extension to the south side of the basin was about three fourths completed, and on this account bonds to the amount of $52,159 75, payable as above, had been issued, and $22,569 11 paid in money.

The above shows the application that has been made of so much of the net revenue of the company, for the year just ended, for purposes properly chargeable to capital, and to which capital would have been appropriated, had it not been for the causes already stated.

It will appear from the statements and reports referred to that the outstanding engagements of the company for the objects above enumerared amount to about $270,317 56, to be paid in bonds and money. The part to be paid in money, amounting to about $156,809 16, will, to that extent, be a charge on the revenue of the year ending on the 30th of September, 1849—and if to this be added the sum due for borrowed money, say $35,000, and to the Washington road, say $22,427 11, there would be the sum of $214,236 27 in cash, chargeable upon the revenue of the same year.

The total amount of the bonds of the company for all purposes, now outstanding, exclusive of the old loan for the construction of the Washington road, is $499,346 20, and for the final payment of all engagements on account of the objects already adverted to, the aggregate amount of such bonds, issued and to be issued, according to the estimate and report of the chief engineer, will not exceed the sum of $623,173 71.

When the engines and cars ordered, as herein stated, shall all be delivered, the motive power and machinery of the company will consist of 23 engines of the 1st class, 4 of the 2d, 15 of the 3d, and 20 of the 4th class; 65 passenger cars, 37 coal cars of wood, and 203 of iron, and 961 burden cars of all other descriptions; and with the road entirely renewed with a single track of heavy rail and improved construction from Cumberland to Baltimore, and extended to the south side of the basin, thus stocked, it is believed that the company will be able to do any amount of business which they at present have reason to believe will be offered.

When the reconstruction now under contract is completed there will remain but two places on the road—one at the Relay house, and the other at Ilchester—where the curves are of a less radius than six hundred feet; the cost of making the change at these places has been estimated at $64,573.

The laying of the rails on the extension to the south side of the basin has been commenced, and it is supposed by the chief engineer that the track will probably be ready for use by the first of December next.

During the last year there has been transported on the main stem 290,698 passengers and 271,252 tons of freight. The proportion of expenditure properly chargeable to revenue has been 54½ per cent. The number of miles run by the engines on the main stem and Washington road, has been 1,039,439; and of the 57 engines belonging to the company, during that time, 48 have been kept in constant use. The cost of transporting a passenger per mile, during the same period has been 1·092 cents, and a ton of freight 1·829 cents.

These results, shown by the report of the chief engineer, are important; and are stated in this detail that the stockholders by instituting a comparison with similar results, on other roads of high repute in the country, and corresponding with the Baltimore and Ohio railroad, may be enabled to appreciate the manner in which the board has discharged its duty in the management and working of the main stem. Such a comparison affords perhaps, the best test within reach; and it is one which the board, may with confidence and satisfaction, invite the attention of the stockholders.

There will be found at the end of the chief engineer's report a table, showing at a glance the proportion of expenditure to revenue—the cost of transporting a passenger and a ton of freight, respectively, per mile—and the proportion of engines in use to the whole number owned, on six of the principal and best known railroads of the United States, for the year 1847, which is the latest date to which access has been had to their respective reports. From this it will be seen that the expense per mile run is 10 per cent. and the cost per passenger per mile is 30 per cent. less than the average of those roads, while the cost per ton per mile may be said to be the same with that average, as it is but two per cent. more. The less favorable proportion of expenses to receipts, being about 8 per cent. against the Baltimore and Ohio railroad, is due to causes of temporary operation now nearly at an end, independent of which however, a sufficient explanation of it may be found in the lower average charges of the Baltimore and Ohio railroad, which for passengers are but nine per cent. more, and for freight are 37 per cent. less than the average of those roads, which have cost $10,165 per mile more than the Baltimore and Ohio railroad.

Nor must it be forgotten that while all the roads, with which the above comparison has been made, are finished works, realizing all that their proprietors anticipated, the Baltimore and Ohio railroad is as yet incomplete, resting, for the present, at a point which the most sanguine, even at this day, would hesitate to make the terminns of a road, with no other connection with the Ohio than would be afforded by the turnpikes and the common roads of the country.

Second, of the Washington Road.—The affairs of this road are shown by the statements C and D.

It will appear that the gross income from the Washington road, for the year ending 30th September 1848, has been $255,164 73; the total expenditure properly chargeable thereto $143,524 92, and the net revenue $111,639 76; showing an increase over the preceding year of $36,746 42 in the gross income, $14,714 22 in the expenditure, and $22,032 20 in the net revenue.

Of the net revenue of the year the board have declared a dividend, for the last six months, of $3 upon each share of stock payable on and after the 15th day of November next ensuing the date of this report.

The above statements and the annual report of the chief engineer, will exhibit all the receipts and expenditures of every description on account of this road; will present the same general economy in its working and management as have characterised the operations of the main stem, as already detailed; and the efficient condition of the road, and of the motive power and machinery is satisfactorily shown by the report of the chief engineer. An inspection of these statements and report, to which the attention of the stockholders is invited, will dispense with any further observations in this place.

Third, of the Extension of the Road to the Ohio River.—The stockholders are already aware that authority has been obtained from the State of Virginia for this purpose, on terms satisfactory to the company.

During the last year the surveys of the various routes have been dilligently prosecuted. They were entered upon about as early as the 1st of July, 1847, with two parties of engineers, which by the 1st of August following was increased to three. There was at that time, and for some time subsequent, a difficulty in procuring the services of competent and experienced assistants, or the number of parties might have been enlarged, in order, as was earnestly desired, to press on the surveys with the greatest despatch. So urgent was this wish that the location of the route, as is seen, was begun some weeks before the acceptance of the Virginia law conferring the right of way in that State, and before the company was permitted to advance beyond the boundary of Maryland. Within the limits of this State, therefore, the sueveys were confined until the middle of October.

The engineers continued uninterruptedly in the field during the entire winter, and ha-

ving extended the lines upon one route as far as Cheat river by the end of December, they were then removed to the vicinity of the Ohio and were engaged up to the end of May in executing the extensive and complex system of surveys necessary for a choice of routes between the mouth of Piles Fork of Buffalo creek and Wheeling. The estimates of cost upon the route surveyed the previous year from Cumberland to a point about 50 miles therefrom in the glands, were so much delayed by the necessity of removing the parties to the westward, and occupying them there with new work, that the chief engineer could not present his report upon those estimates until the 8th of last April. The difficulties of the part of the route which formed the subject of this report, and of the entire country as far as the Cheat and Tygart's Valley rivers, induced the board to call in two consulting engineers to confer with the chief engineer upon the location of this important section of the road. For this purpose the services of Jonathan Knight, of Pennsylvania, and John Childe, of Massachusetts, were secured, and in the month of June the board of engineers, thus constituted, examined the country described, with care, and decided upon all the lines it would be expedient to trace, in order to leave no room for question that the entire ground had been investigated with the utmost caution.

The assistant engineers, having then completed their western surveys, were immediately transferred again to the region between Cumberland and the Cheat river; and have since been laboriously engaged in running the lines so indicated. They have now nearly completed the surveys east of Cheat river, and two of the parties have moved to the ground between that and the Tygart's valley river.

With the present number of parties the survey of the whole route from the present road to the Ohio at Wheeling may be completed before the coming winter, and the lines will have been traced with sufficient accuracy for satisfactory estimates of distance and cost, although not for actual construction without a revision in their details—excepting the greater part of the route upon the first 50 miles, which, if the lines located last year should be ultimately adopted, could be made ready for contract in a very short time. The report of Messrs. Latrobe, Knight and Childe, embracing about the first 27 miles of the extension, was not completed and submitted to the board until their meeting on the 13th day of September. It presents at least three points on the present road, from either of which the extension may be commenced, and also the same number of routes, varying more or less from each other, on which the road may be advantageously constructed; and it contains an elaborate discussion of the estimates and considerations by which, in the opinion of the engineers, the choice among all the routes at the option of the company should be determined. The choice between the points indicated in this report, and the selection it may be proper to make of the route as far as the mouth of Savage, involves questions of not less importance than any that would be likely to occur upon any part of the entire line; and as the facts upon which these could be satisfactorily decided required to be thoroughly and minutely examined and digested, and as the decision ultimately to be made might seriously affect the interests of important sections of this state, the board deemed it their duty, in the first instance, to refer the report to their committee, in order that any additional information, not embraced in the report, but necessary to a safe and sound conclusion upon the whole subject, might be fully collected and investigated, and submitted in a perspicuous and satisfactory form to the board of directors.

The committee of construction and reconstruction, to whom the subject has been referred, promptly engaged in its investigation, and may be expected to submit their report as soon as a proper respect to its importance and to the considerations involved in the subject, will admit of. It may be proper to observe, in the meantime, that of the practicability of making the road to Wheeling, with grades perfectly within the useful available power of the locomotive engine, and not exceeding in any part 79½ feet to the mile, there appears to be no doubt whatever in the minds of the eminent engineers already mentioned. The selection, therefore, between routes each having peculiar advantages, will be one of the earliest subjects for the earnest consideration of the board of directors.

By order of the Board,

LOUIS MCLANE, *President.*

Office Balt. & Ohio R.R. Co.
October 9th, 1848.

[A]

Statement of the Affairs of the Baltimore and Ohio Railroad Company.

	Dr.	
Stock in the Washington branch road.		$1,032,600 00
Cost of road to Harper's Ferry		4,000,000 00
Cost of road west of Harper's Ferry.		3,623,606 28
Reconstruction of road east of Harper's Ferry		625,661 26
Improvements of road bed east of H. Ferry		129,597 34
Extension of road to Locust Point		88,444 26
Sterling bonds in the hands of Baring Brothers & Co.		3,181,005 11
Stock in the Pittsburgh and Connellsville railroad company		1,750 00
Sinking fund for the redemption of the million loan		96,000 00
Invalid fund		196 28
New York and Maryland Iron and Coal company		13,627 69
Due by the Washington branch road.		1,855 33
Bills receivable		1,653 29
Due by C. Slack, late agent at Cumberland		775 94
Expenses—repairs and interest, viz:		
On account of construction.	15,551 47	
On account of surveys west of Cumberland	35,083 50	
On account of improvements depots	40,356 74	
	90,991 71	
Locomotive steam power	62,247 28	
Burden cars	71,193 84	
Passenger cars	17,212 25	
Interest on bonds & on loans of money	89,525 13	
		331,170 21
Cash in the hands of officers		9,042 86
		13,136,940 85

	Cr.	
Stock		$7,000,000 00
Loan at six per cent.		1,000,000 00
Loan No. 2, at six per cent		429,951 28
Indemnified bonds		69,105 12
State of Maryland, 5 per cent sterling bonds		3,200,000 00
Baring, Brothers & Co		53,708 95
Bills payable		89,017 42
Forfeited stock		183 45
Cash		53,405 11
Revenue	1,903,675 92	
Less expenses of working the road and keeping it in repair	622,106 50	
		1,241,569 42
		13,136,940 85

[B]

Statement of the Revenue and Expenses of the Baltimore and Ohio Railroad Company, on account of the Main Stem of the Road, for the year ending the 30th Sept., 1848.

The company have received for the transportation of passengers, mails and merchandise, during the year ending the 30th Sept. 1848		$1,882,942 58
And they have due by the postoffice department and individuals		30,721 99
Making together		1,213,661 57
There have been the following expenses during the same period, for working the road and machinery, and keeping them in repair, viz:		
Expenses of transportation.	219,962 46	
Repairs of railroad	167,365 05	
" locomotives	62,368 52	
" passenger cars	26,491 07	
" burden cars	74,614 10	
" bridges	59,509 18	
" depots, etc	14,990 85	
" water stations	3,946 83	
Watching bridges & pumping water at water stations	12,012 35	
Losses by accidents, fire, etc	4,022 61	
Office and incidental exp., including salaries, fees to counsel, house rent, etc.	16,603 74	
Stationary, machinery and shops	219 74	
Making an aggregate of expenses of		662,106 50
And showing the net earnings of the road to be		$551,558 07

[C]

Statement of the Affairs of the Washington Branch Railroad.

	Dr.	
Cost of road, real estate, engines and cars		$1,650,000 00
Cash in the hands of officers		88 32
Cash on hand		120,785 71
		1,770,874 03

	Cr.	
Stock		$1,650,000 00
Annuity account		25,000 00
Baltimore and Ohio railroad		1,855 33
Revenue	169,775 73	
Less expenses of working the road and keeping it in repair	75,757 73	
		94,018 70
		1,770,874 03

[D]

Statement of the Revenue and Expenses of the Washington Branch of the Baltimore and Ohio Railroad, for the year ending the 30th Sept., 1848.

The company have received for the transportation of passengers, merchandise and mails, on the road for the year ending the 30th day of Septem-

ber, 1848		$250,875 42
And there is still due by the postoffice department and individuals		4,289 31
		255,164 73

The expenses during the same period have been as follows, viz:

For bonus to the state, one-fifth of the receipts from passengers	45,884 78	
Expenses of transportation	27,365 89	
Repairs of the road	25,909 61	
" passenger cars	8,107 91	
" burden cars	5,991 25	
" locomotives	6,431 99	
" bridges	7,025 93	
" depots	306 12	
" water stations	225 66	
Eldridge landing annuity	1,250 00	
Washington property	745 61	
Miscellaneous improvements	2,881 22	
Watching bridges	614 00	
Losses by accidents	75 40	
Passenger cars	1,710 00	
Office and incidental expenses, including salaries, house rent, etc	8,999 60	
Making an aggregate of expenses of		143,524 97
And showing the net earnings for the year to be		$111,639 76

J. I. Atkinson, *Treasurer.*

October 1st, 1848.

(To be continued.)

New York and Erie Railroad.

The directors of the New York and Erie railroad company submit the following report of their proceedings, and also of their receipts and expenditures, pursuant to the 19th section of the act incorporating the company, and in compliance with the resolution of the assembly, passed February 2, 1843:

Since the date of the last annual report 13 miles of road, extending from the Shawangunk summit to Port Jervis have been completed, and the trains commenced running regularly on the 7th inst. This section of the road is more expensive and difficult of construction than any other of the same length between the Hudson river and Lake Erie, and has always been regarded as the most formidable obstacle on the whole work. The road is constructed along the face of the mountain, is very straight and can be run at the highest speeds with safety. The adoption of the Delaware river route has enabled the company to obtain a line descending from the mountain on a grade of only 45 feet to the mile. The work is of the most permanent and substantial character. The iron rail used is of American manufacture, and weighs 60 lbs. per yard. There are few if any rail roads in this country on which a greater am't of heavy and expensive work has been crowded together in the same distance.

From Port Jervis to Binghamton, 127 miles, the work was put under contract in the fall of 1846, and has been vigorously prosecuted to the present time. A very large force having been employed, and satisfactory progress made, almost the whole of the difficulties between the Hudson river ane Binghamton have been encountered, and to overcome them the whole power and resources of the company are directed. This part of the line is in such a state of forwardness, that at the rate the work has progressed since the date of the last report, it will be completed in the fall of the present year. When this is accomplished, the remaining task of the company will be comparatively easy.

In anticipation of the completion of the road to Binghamton the present season, contracts have been made for 21 locomotives of the largest class, and provision has been made for a sufficient outfit of freight and passenger cars, most of which will be built in the shops of the company.

A considerable portion of the iron rails are already upon the line of the road, and the work of laying down the track in the vallies of the Delaware and Susquehanna will be commenced about the first of June next.

The grading of the Newburgh branch has been progressing during the year, and a considerable force is constantly employed upon it.

The receipts of the company from all sources for the year ending Dec. 31, 1847, were		$2,306,789 49
Cash on hand 1st January, 1847		243,099 15
		2,549,888 64
The expenditures during the same time on account of construction and materials, repairs and running the road, and for all other purposes, were		2,379,446 81
Cash on hand Jan. 1, 1848		170,441 83

Tabular statement of the New York and Erie railroad, made to the secretary of state agreeably to a resolution of the assembly, passed Feb. 3, 1843.

Number of miles in operation (not including extension to Port Jervis	62
Cost of construction, including pier	$2,759,835 27
Number of through passengers	36,506½
" way "	118,788½
Receipts from through passengers	37,342 06
" way "	63,648 68
" freight and mail	153,128 34
Total income from transportation	254,119 08
Expenses of repairing and running the road, and maintaining ferry between New York and Piermont	172,970 68
Amount of dividends, none.	
Number of locomotives	10
" passenger cars	9
" freight cars—8 wheels	70
" mail, milk and other cars	77
" machine shops	1
Av. No. men in transportation	182
No. miles run by passenger trains	89,800
" freight and other trains	69,832
Tot. miles run by passenger and freight tr.	159,632

Thomas T. Townsend.
Cornelius Smith.

JAMES LAURIE, *Civil Engineer.*
No. 23 Railroad Exchange, Boston, Mass.
Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures
October 14, 1848. 6m*

RAILROAD IRON.
THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to
COOPER & HEWITT, Agents,
17 Burling Slip, New York.
October 30th, 1848.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.
When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

JAMES HERRON, *Civil Engineer,*
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.
MODELS of this Track, on the most improved plans, may be seen at the Engineer's Office of the New York and Erie Railroad.

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.
☞ *The above may be had at order at our Car Factory,*
Reuel Dean,
Elijah Packard,
Isaac Mills,
SPRINGFIELD, MASS.
1y48

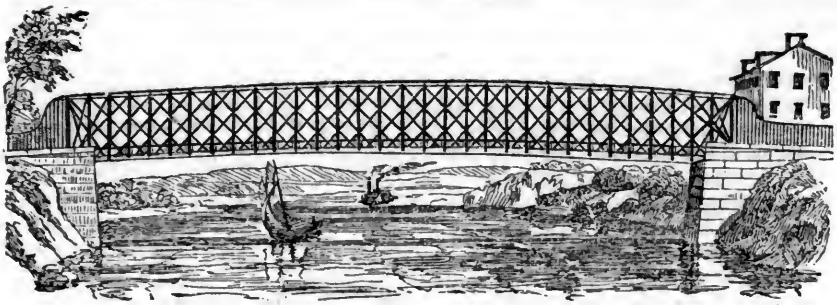
TO CONTRACTORS.
Office Nashville & Chattanooga R.R. Co.
Nashville, 9th November, 1848.
PROPOSALS WILL BE RECEIVED AT this office on 20th December next, for the Graduation and Masonry of forty miles of road, viz: twenty miles next to Nashville, ten miles crossing the Barran fork of Duck river in Bedford county, Tennessee, and ten miles on the northwest side of Tennessee river, in Jackson county, Alabama.
Profiles and plans may be seen at this office after 12th December. By order of the board.
C. F. M. GARNETT,
Chief Engineer.
N. B. Twenty-five miles of road (including the Tunnel,) and six miles heavy mountain work are under contract. Seven Hundred Laborers are wanted by the Contractors. 5t*48

☞ **NOTICE.** ☜
RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.
1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train.
Leaves	Albany	7¼ A.M.	2 P.M.	7 P.M.
Pass	Utica	1 P.M.	7¼ P.M.	1¼ A.M.
Pass	Syracuse	4¼ P.M.	11 P.M.	5 A.M.
Pass	Auburn	6¼ P.M.	1 A.M.	7 A.M.
Pass	Rochester	12¼ M.N.	7 A.M.	1 P.M.
Arrives at	Buffalo	5¼ A.M.	12 M.	6 P.M.

Going east.		1st train.	2d train.	3d train.
Leaves	Buffalo	7¼ A.M.	2 P.M.	7 P.M.
Pass	Rochester	12¼ M.	7 P.M.	12 M.N.
Pass	Auburn	6¼ P.M.	1 A.M.	6 A.M.
Pass	Syracuse	8¼ P.M.	3¼ A.M.	8 A.M.
Pass	Utica	12 M.N.	7 A.M.	11¼ A.M.
Arrives at	Albany	5 A.M.	12 M.	4¼ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.)
T. Y. Howe, Jr.,
Secretary of the Convention.



RIDER'S PATENT IRON BRIDGE.

THE RIDER IRON BRIDGE having now been fully tested on the Harlem Railroad, by constant use for about eighteen months, and found to answer the full expectations of its most sanguine friends, is now offered to the public with the utmost confidence as to its great utility over any other Bridge now known.

The plan of this Bridge is to use the iron so as to obtain its greatest longitudinal strength, and at the same time is so arranged as to secure the combined principles of the *Arch*, *Suspension* and *Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

THE RIDER IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Rail Road or other purposes, made under the above Patent, at short notice, and at prices far *more economical* than the best wood structure, and on *certain conditions*, the first cost may be made the same as wood.

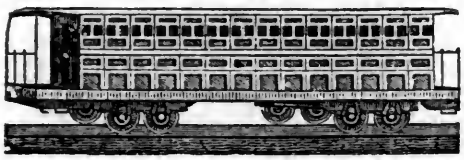
Models, and pamphlets giving full descriptions of the RIDER BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, **74** BROADWAY, *up stairs*, or of W. RIDER & BROTHERS, **58** *Liberty Street*, where terms of contract will be made known, and where orders are solicited.

M. M. WHITE,
Agent for the Company.

November 25, 1848.

CAR MANUFACTORY,

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, October 2, 1848. 41tf

RAILROAD IRON.

THE MOUNT SAVAGE IRON WORKS, Allegheny County, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron.—Communications addressed to either of the subscribers will have prompt attention.

J. F. WINSLOW, President
Mount Savage Iron Co., Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md

November 6, 1848.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

RAILROAD SCALES.---THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 75 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.

September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS EOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic atmost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper."*

DIRECT ACTION ENGINES
FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES, of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d qy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtis & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.

January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.

August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--

BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.

New York, Sept. 9, 1848. 6w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents { FAIRBANKS & Co., 81 Water st. N. York.
A. B. NORRIS, 196 Market st., Philad.

April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

RAILROAD IRON.

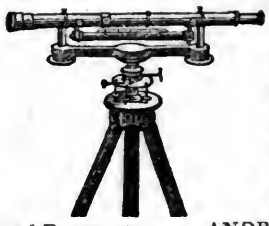
THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.

New York, October 25, 1848. tf

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,

Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*. and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

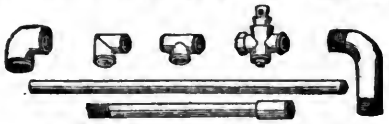
Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.

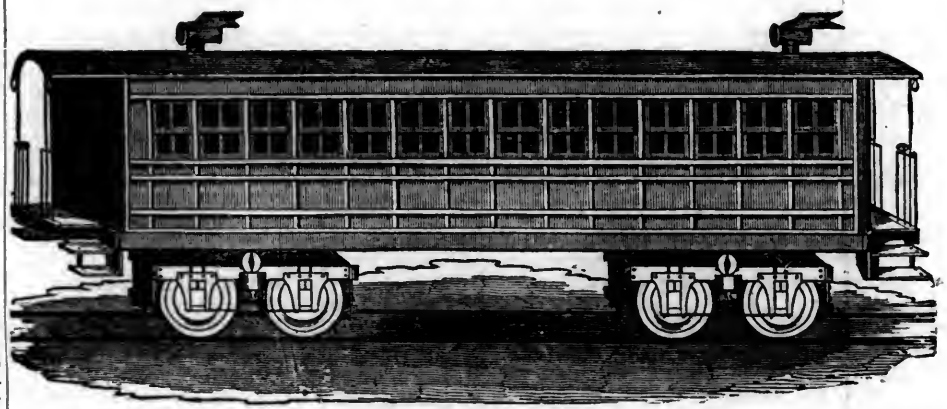


Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.
☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.
REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No 79 Water St., New York.

RAILROAD IRON, PIG IRON, ETC.
600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.





Our improved Spark Arresters have been extensively used during the last year, on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

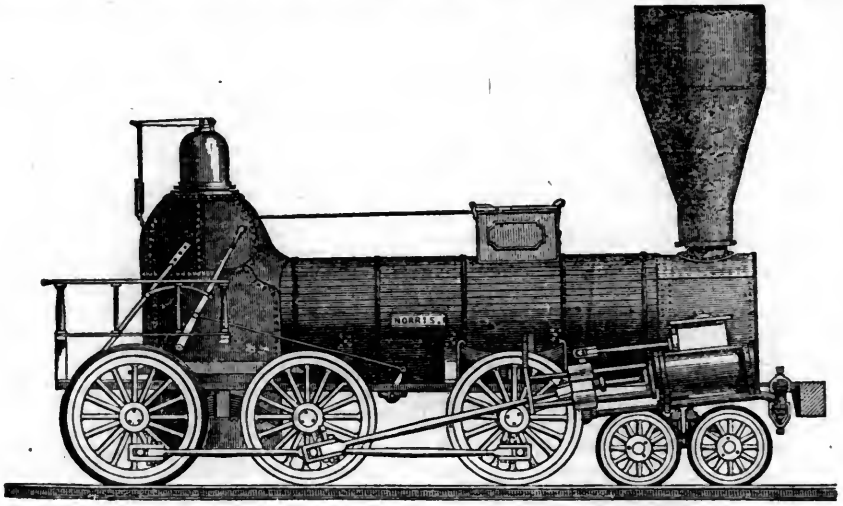
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

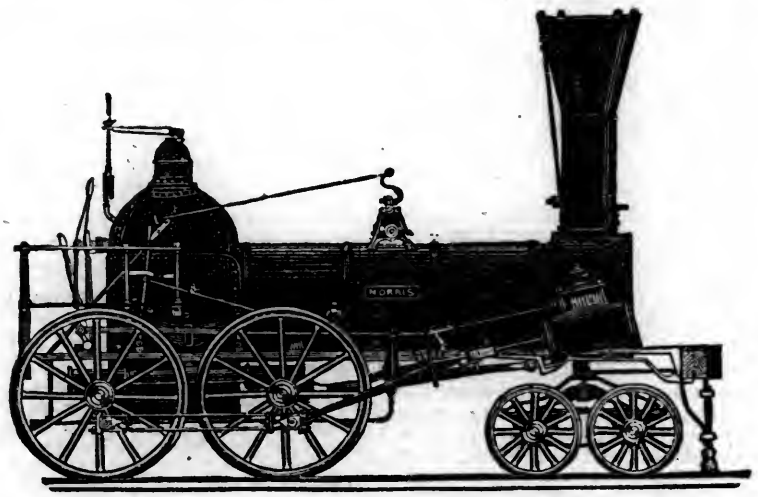
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.
Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnisbed and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

IMPORTANT TO ENGINEERS, CONtractors, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C A. SEAD, Agent, 27 State street, Boston.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.


This Road in connection with 
the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1v

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.


This Road is open for the transportation of Passengers and 
Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
,y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT. 

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the


Trains will run as follows: 

Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars 
will run as follows, until further 
notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

NORWICH AND WORCESTER RAILRoad. Winter Arrangement.—1848.


Accommodation Trains
daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 2½ p. m.

Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, JR., Sup't.

BOSTON AND MAINE RAILROAD.


Winter Arrangement. 
Commencing Nov. 13, 1848.

Trains leave Boston as follows, viz: For Portland at 7 A.M. and 2½ P.M.

Great Falls at 7 a.m., 2½ and 3½ p.m.

Haverhill at 7 and 11½ a.m., 2½, 3½ and 5 p.m.

Lawrence, at 7, 9, 11½ a.m., 2½, 3½, 5, 6 p.m.

Reading 7, 9 & 11½ a.m., 2½, 3½, 5, 6, 7½ & 10 p.m

Trains leave for Boston as follows, viz: From Portland at 7½ a.m., and 3 p.m.

Great Falls at 6½ and 9½ a.m., and 4½ p.m.

Haverhill at 7, 8½ and 11 a.m., 3 and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6½, 7, 7½, 9½, 11½ a.m., 1½, 3½, 7½, 9, p.m.

MEDFORD BRANCH TRAINS.

From Medford at 6½, 8, 10½, a.m., 2, 4, 6, 9 p.m.

From Boston at 7½, 9½ a. m., 12½ 2½, 5½, 6½, 10 p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, Nov. 7, 1848.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NEW YORK & PHILADELPHIA.
NEW JERSEY RAILROAD & TRANSPORTATION CO.—
6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11½ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

125 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price,
Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon	$1 00
" " " Xenia	1 50
" " " Springfield	2 00
" " " Columbus	4 00
" " " Sundusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

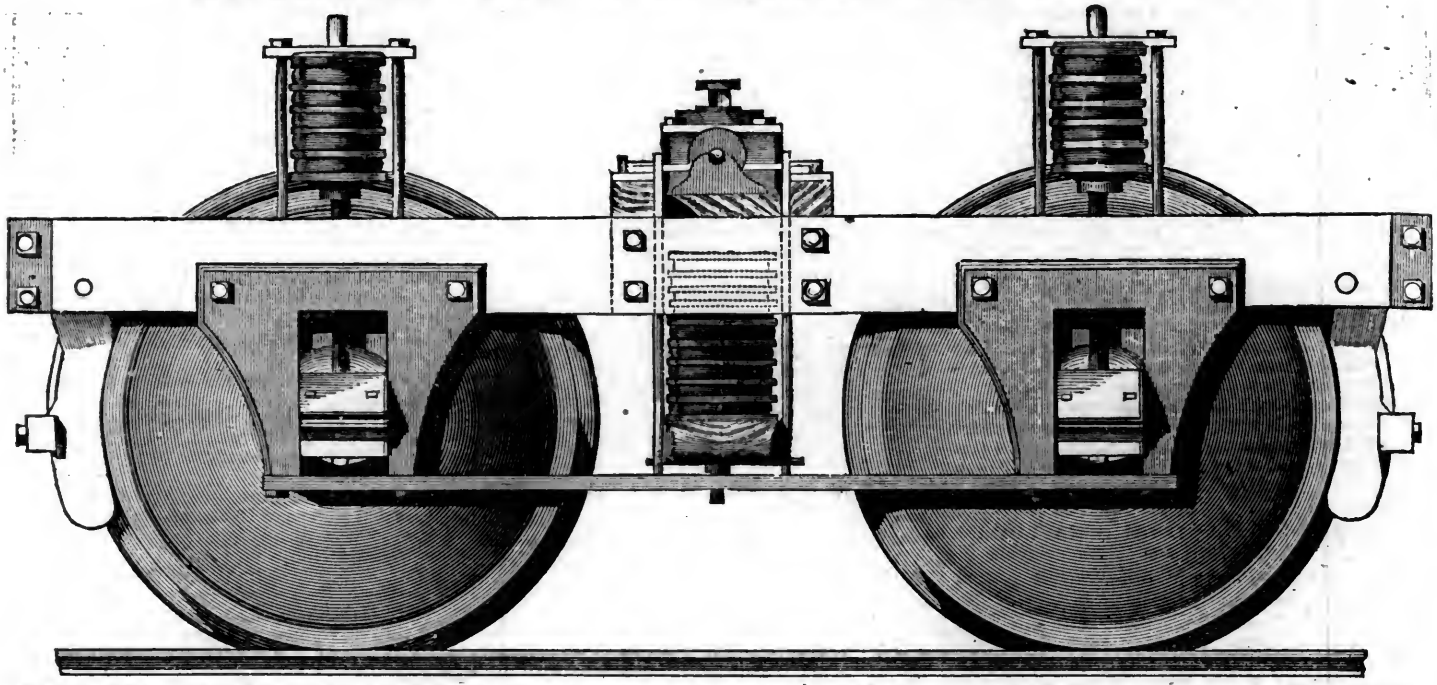
Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for oaggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in valne over that amount.

47tf W. H. CLEMENT, *Sup't.*

FOWLER M. RAY'S

METALLIC INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 58 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation on its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building B. &. W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

AMERICAN RAILROAD JOURNAL.
OFFICE AT 48 SOUTH THIRD STREET,
(Below Chestnut Street,)
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance*.

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 51] SATURDAY, DECEMBER 16, 1848 [WHOLE No. 662, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, December, 16, 1848.

LOCOMOTIVES FOR SALE.

FOR SALE—Three Locomotive Engines and Tenders, in good running order. Apply to
JOHN WILKINSON,
President of the Syracuse & Utica R. R.
Syracuse, New York.
December 16, 1848. 4t50

MISSING NUMBERS OF THE JOURNAL.

As the *current* volume of the Railroad Journal is *nearly* completed, and as it *may not long* be in *my power* to furnish *missing* numbers to its subscribers —*some* of whom have kindly accompanied me thro' a long journey of *eighteen years*—through good report and through evil report—I am *desirous* to furnish *all* who wish to *complete* their volumes, with missing numbers, if they are now on hand. *Every* subscriber, desirous to obtain missing numbers, should make out a list, and forward it *immediately* after the close of the volume, which will be with the *next* number, or December 23d. The Titlepage and Index will be forwarded on the 30th December instant.

D. K. MINOR,
Editor Railroad Journal.

Hudson River Railroad.

A tour of inspection was, we understand, recently made over the route of the Hudson river road, by a few of the friends of the enterprise, who, it is said by one of the party, had reason to unite in the expression of their approbation at the progress of the great work undertaken by this company. It is calculated that when the road is completed the through trip to Albany may be performed in 3½ to 4 hours. It is now, we understand, the intention of the company, to open a single track to Poughkeepsie on or before 1st of September next, and to Albany on or before 1st of July, 1850. The total cost of this road to Poughkeepsie will be nearly $4,000,000.

The completion of this road to Albany will mark a new era in our railroad history. It will fully test the question of high speed and low fares, as upon *these two* questions will depend the success of the enterprise.

Baltimore and Ohio Annual Report.

We commence, in this number, the report of the chief engineer of this company, which will be found useful to the managers of other roads, as it gives in detail, by an able and experienced hand, the operations of the past year. Mr. Latrobe has, we believe, been employed upon the work from its commencement, and has—we hardly dare say it, yet, as it is the result of hard work, rather than of age, we will venture to speak the truth, and say that he has—grown a *little* gray in its service, and may therefore with great propriety be looked to for useful information in relation to the details of management, and wear and tear of the roadway and machinery.

His experience in the *wear and tear* of different kinds of rails, differently laid, will of course attract attention.

The great outlay for bridges, being $59,509 for rebuilding and repairing, and $8,105 for *watching* them, will, we should think, induce the company to examine the new *iron* bridge now offered by the Rider bridge company, in New York; as they can be furnished, as we are informed, at comparatively cheap rates.

The entire cost of maintaining the road bed, tracks, bridges, water stations, depots, watching bridges and pumping water for the year, was $258,384 19, or about $1,400 per mile for the main stem.

The improvement of the old road way, east of the Monocacy, by which the short curves will be materially improved, is rapidly progressing; and the extension of the road down to the south side of the bay at Baltimore, by which the cars will be taken down by steam, will materially reduce the expense of working.

It appears, by the report, that the expense of *horse* power, last year at Baltimore, was $35,195, besides the delays which necessarily occurred in hauling to the wharves and unlading the cars.

The facts given in relation to the performance, and cost of repairs, of engines and cars, will be found both interesting and useful.

We shall give the remaining portion, with several of the tabular statements, in our next.

Kennebeck and Portland Railroad, Annual Report.

We are indebted to the chief engineer, G. S. Greene, Esq., for a copy of the annual report of this company, made in October last, which shows that this company is determined not to be behind their neighbors, in the progress of their work. The charter covers the line from Portland to Augusta, via Brunswick, with a branch to Bath, 61 miles; but we hope the directors may yet decide, if they have not already, to connect at North Yarmouth, with the Atlantic and St. Lawrence road—extending this line an equal distance further into the county—avoid, if possible, *rival* lines, when the existing line will be just to the people in their management.

One main line can bring in all the traffic *north* and *east* of the Androscoggin, even if all the roads now chartered were completed—then avoid *doubling* if it can be done fairly.

We hope the company may be able to open the line to Bath, as they in their report intimate, before the 1st of January; and then we trust that the three distinct lines, viz: the Atlantic and St. Lawrence, the Androscoggin and Kennebeck, and the Kennebeck and Portland, will be able to extend their respective lines annually from twenty to thirty miles, until they reach the points aimed at; and until the people of Maine shall be as well accommodated with railroads as are the people of Massachusetts.

We shall give the engineer's report entire, and extracts from that of the board of directors, in a subsequent number.

Progress of Railroads.

This has been called the "age of locomotion," and when we contemplate the vast results that in the last 18 years have attended the construction of railroads, it may readily be admitted that it is so. The construction of railroads may even yet be considered in its infancy, notwithstanding the almost incredible amount of money that has been expended upon them in England, western Europe and the United States, since the opening of the Liverpool and Manchester railway in 1830. Throughout Germany there were opened in 1847, 67·71 German miles of road, completing 729 German, or 3,353 English

miles, and the gross receipts on these roads amounted to 19,502,843 thalers, or $13,534,497. In France the railways are greatly extended, although in the present year they have suffered disastrously from the revolution. For seven months, ending with July, the receipts this year were 6,726,293f. against 8,005,071f. last year, and 10,218,137f. or $1,915,900 in the same period of 1846. In England the railway mania has absorbed all the floating means of the country, and up to April last the capital invested in them reached the following figures:

	Authorised per returns £	Estimate for Co's., no returns.	Total. £	Total. $
St'k.	222,953,944	29,832,620	252,786,564	1,212,775,499
L'ns.	71,348,096	10,152,935	81,501,031	391,204,948
Tot.	294,302,040	39,985,555	334,287,595	1,603,980,447

That any considerable portion of so vast a sum of money could be raised for the increase of fixed capital, awakens astonishment: and yet it is so.—The impossibility of paying the national debt of £772,000,000 has been for years assumed as a fact, and yet a sum nearly equal to half that amount, in the circulating capital of England, can be turned into fixed capital with comparative ease. The revolutions in Europe, by paralysing the industry of England engaged in the production of exportable goods, and the successive failures of harvests on which the healthines of the home trade depends, operated a most injurious influence upon the railroad interests, and the losses to stockholders through a fall in prices are estimated at £100,000,000. That is to say, the leading merchants, manufacturers and capitalists, having invested their surplus contingent funds in railway shares, and through the effects of the European revolutions and short harvest being compelled to resort to these funds to meet engagements, had, in October last, the option to sacrifice goods or railway stock, many chose the former alternative; but those who sold the latter, did so at a loss of 50 per cent. Although this apparent loss has taken place with the stockholders, it may well be questioned whether the development of resources and economy of transportation attendant upon operation of the railroads has not in fact sustained the nation at large in a better condition than would otherwise have been the case, under the extraordinary circumstances of the past year.

In the United States, where increase of population and rapidity of settlement on large tracts of land are marked features, the construction of railroads is not only an important but a necessary element in the national progress. In the United States there are in operation 5,703 miles of road, at an estimated aggregate cost of $285,150,000; of these roads, 1,261·54 miles are in the New England States, and 880·74 miles in Massachusetts constructed at a cost of over $41,000,000. In the last three sessions of the State legislature there have been chartered in Massachusetts as follows:

	Aggregate capital.
1846—18 roads and branches	$5,795,000
1847—16 " "	4,822,000
1848—19 " " increase of old stock, $3,941,000	11,045,000
Total	21,662,000

In the year 1847 $6,762,000 was paid upon the roads, and in the present year probably an equal amount. Nearly all these roads connect with Boston directly or indirectly, and all of them afford material for its growth in the resources they place at its command, reciprocally benefitting the sections connected with it. Although the large sums expended in these works have diverted capital from those reservoirs where they have usually accumulated for the benefit of commerce, and have thus tended to advance temporarily the rate of interest and somewhat cramp industrial occupations for the moment, the vast benefits they have conferred upon the city are manifest in a remarkable degree. These are indicated in the annual taxable valuation and the taxable polls as follows:

TAXABLE VALUATION OF BOSTON.

	Real estate.	Personal estate.	Total.	Polls.
1841	61,963,000	36,043,600	98,006,600	18,915
1842	65,499,900	41,233,800	105,723,300	19,636
1843	67,673,400	42,372,600	110,056,000	20,063
1844	72,048,000	46,402,300	118,450,300	22,339
1845	81,991,400	53,957,300	135,948,700	24 287
1846	90,119,600	58,720,000	148,839,600	25,974
1847	97,764,500	64,595,900	162,360,400	27,008

In these seven years the property taxable, increased $64,000,000, in the preceding seven years $20,000,000, and in the seven years ending with 1834, $5,000,000. Without railroad communication the increase in the last seven years would probably have been double that of the seven years before the roads were constructed, say $10,000,000; in which case there remains $54,000,000 as the effect of the roads upon the value of property, or $10,000,000 *more than the whole cost of all the roads.* The population has increased 50 per cent. in the last seven years, or as much as it increased in the previous 20 years. This has been the effect of developing resources and concentrating the business so *created* upon Boston, a city less influenced in its growth by foreign immigration than perhaps any other on the Atlantic.—While these vast enterprises have been producing such immense results in Massachusetts, New York has done comparatively nothing. She has depended upon her vast natural resources, and her favorable natural position in relation to the foreign trade.—The result has been that the value of her real estate which was $186,350,948 in 1841, fell to $164,955,314 in 1843, and recovered to $187,315,386 in 1847—or in other words remained stationary. This is the more remarkable that 10,102 new buildings, worth at least $50,000,000, were erected in that time.—There were, however, no railroads connecting distant agricultural, mineral and manufacturing resources with the city, to give activity and vigor to its enterprise. The Erie railroad indeed opened the rich county of Orange, and the Harlem ran a few miles into Westchester; but these did not suffice to feed the growth of the city caused by immigration, and the leading merchants were at last awakened to the necessity of exertion. Under more vigorous action the Erie has been opened to Port Jervis, and is just completed to Binghamton, making 200 miles into the heart of a virgin region and penetrating through the mountains into regions of the N. York central lakes, and in the course of the year it will probably be open to Dunkirk, not only completing a new avenue for western trade, but bringing within command of the city some of the most fertile counties hitherto unavailable.

The coal and iron regions of northern Pennsylvania will also have a new avenue to market, both east and west. The progress of the Hudson river railroad will also by connecting with the northern and central lines give a new spur to business in that direction, and the closing of navigation will no longer isolate New York city from the west. In other parts of the Union similar gigantic undertakings are in progress. Among the important lines in contemplation, is the Mobile and Ohio railroad, descending from the mouth of the Ohio 470 miles, through four States to Mobile, at an estimated cost of $6,850,000. The South Carolina and Georgia railroads to connect those cities with the Mississippi are also stupendous and important undertakings, as is also the completion of the Baltimore and Ohio to St. Louis. With the completion of these lines the Union will be cut transversely by four great railroad routes, viz: 1st, from Boston due west through Canada west to lake Michigan; 2d, from N. York per Erie railroad to lake Erie, thence to Sandusky and Cincinnati: 3d, Baltimore via Cincinnati to St. Lonis; 4th, South Carolina and Georgia via Tennessee and Alabama to the Mississippi, and the western termini of all will be intersected by the Mobile, Ohio and Chicago railroad. There are three great arteries of trade which will be fed and supported by lateral veins, or lines, reciprocally promoting the welfare of each other, cementing the bonds of Union and quickening the activity of general trade as the national wealth is developed, enhanced and distributed.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 2nd inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Dec. 5.	319 05.	214,840 17
By Room Run ....."	1,314 02.	121,207 04
By Hazleton.....	155 16..	86,649 16
By Beaver Meadow.....	864 11..	83,249 00
By Buck Mountain.....	125 10..	71,101 00
By Spring Mountain.....	1,288 04..	64,416 02
By Cranberry Mines.....	377 00..	18,700 00
White Haven.....	.. ..	10,427 16
Diamond Co.....	122 09..	6,391 10
Total.....	4,546 17.	676,971 05

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 7th inst., and since the 1st of January, has been as follows—

	Tons
From Schuylkill Haven.....	6,679 06
" Pottsville.....	1,787 06
" Port Carbon.....	5,922 01
" Port Clinton.....	1,590 01
Total this week.....	15,978 14
Total this year.....	1,177,267 07

The amount of coal brought to market by the Schuylkill canal during the week ending the 7th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon.....	3,653 12
" Schuylkill Haven.....	1,178 03
" Port Clinton.....	386 17
Total this week.....	5,218 12
Total this year.....	433,287 08

Recapitulation.—Total Shipments this Season.

By Lehigh companies.....	676,974 05
By Reading railroad.....	1,177,267 07
By Schuylkill canal.....	433,287 08
Total.....	2,287,529 00

Railroads in Maine.

We find in the Portland papers of 2d inst., an account of the opening of another section of the Atlantic and St. Lawrence railroad, and of the first section of the Androscoggin and Kennebec railroad.—The Advertiser says, "On Saturday last an experimental trip was made on the railroad to Lewiston, being a distance of 27 miles on the Atlantic and St. Lawrence road, and 6 miles on the Lewiston road, 33 in all.

"There were about 200 passengers, including our mayor and other city officers, on invitation of the president of the road. And although the weather

was extremely unpleasant, all appeared highly pleased in view of the flattering railroad prospects of our state of which this is an important era.

"There are now chartered within our limits more than 650 miles of railroads, passing through most important sections of our state, nearly 300 of which are now in the course of construction. Lewiston Falls, affording one of the best water powers in New England, are now united with Portland.

"In another direction, the York and Cumberland road is progressing, and the water power at Saccarappa will also be united to Portland by railroad in a very short time. At every step in the progress of these great works, the public are more and more convinced that they will fully justify the most sanguine anticipations of their friends both in profits to the stockholder and their effect on the business and prosperity of our state. This is an important era in the history of the state of Maine."

Truly is it said by the editor that the present is an "important era in the history of the state of Maine" —and just in proportion to the extension of the railroad system in the state, is the era important.

The Argus says, "The run was made in an hour and a half. The new road from North Yarmouth is in good condition, and was highly satisfactory.—That from North Yarmouth to Portland is as even as a floor—as the other will be after it gets settled. The occasion of opening the continuation of this road towards Montreal and Waterville is one worthy of rejoicing. It is a victory over natural obstructions, and man's opposition, that our citizens may well be proud of. We heard congratulations exchanged on every hand, on the occasion—and we could but feel that it was a proud day for the enterprise—the forerunner of many others yet to come, as the roads advance to their destined completion."

Of the road from Portland to North Yarmouth, we can speak from personal observation, as one of the best laid and easiest riding roads in New England; and we can also speak in high praise of the machinery—or locomotives and cars—upon it, which are from the manufactory of the "Portland Company," and do great credit to the managers and workmen of that establishment.

With a proper appreciation, and support, of these enterprises by the wealthy men, and owners of property, in and about Portland, they will richly repay all interested, and make Portland a city to be known and respected by others, at this time, of much greater pretensions.

Gunpowder on Railways.

Description of Cars for Conveying.

It may not be generally known, says the London Railway Journal, that large quantities of gunpowder are frequently and safely conveyed by railway, as much as eleven tons in one day, and in the course of a few months, above 100 tons of gunpowder have been carried on the London and North Western to Liverpool, Manchester, Leeds, and other places.—The wagons in which the gunpowder is conveyed, are made expressly for the purpose. There are 8 of these wagons on the London and North Western railway, constructed in accordance with the patent of Mr. Henson. The body of the wagon is formed with sheet iron on the outside; the inside is lined with two-inch iron plank, between which and the iron outside a thickness of felt is carefully placed.—These are screwed together from the outside, so that there is nothing but wood inside; except on the floor which is covered with sheet lead. The door fits so close with a double rabet, that it is almost air tight, and it is therefore impossible for any fire to get to the powder inside the wagon. The axles are cased with wood. The comparative absence of the usual noise and vibration in the movement of these powder wagons, is very remarkable.

Plank Roads.

This new plan of road is becoming more and more popular, and is sure to be extensively introduced wherever there is timber suitable for them—and they are sure to become extensive and useful feeders to railroads, as is shown by the following paragraph from the Utica Herald:

"*Plank Roads.*—There are four plank roads extending from this city into the country, and the am't of travel upon them greatly surpasses the estimate of their projectors. The Northern road, which is 22 miles in length, is doing more than double the amount of business that was anticipated. This road was constructed at an expense of over $2,500 a mile, which is nearly double the cost of roads over favorable routes. There are three gates on this road.—The receipts at the first gate for the week ending the 18th ult., were $90. If the receipts continue at the same rate, the profits of the road must pay the whole cost of its construction in four or five years."

The road, here referred to, will, at an early day, be extended through Lewis, Jefferson and St Lawrence counties, to Ogdensburgh, thus connecting the Northern railroad with that through the centre of the state.

The great advantage and convenience of plank roads will be found in their being open to all persons, and all sorts of travel and transportation.

The people of Ohio are also moving in the matter, as will be seen by a "meeting of the citizens of Chagrin Falls, held on Monday, the 27th ult, for the purpose of advancing the interests of the Cleveland and Chagrin Falls plank road company; whereupon Aaron Bliss, A. L. Soule, and R. Taylor were appointrd a committee to solicit the subscription of stock to said road."

Passenger Fares on English Railways.

We copy from the report lately published, the fares actually charged by a few of the railways per passenger per mile:

	1st class.	2d.	3d.
	d.	*d.*	*d.*
Bristol and Birmingham	2·64	1·75	0 94
Eastern Counties	2·30	1·53	0·97
"	1·91	1·30	0·79
Great Western	2·74	1·88	
London and North Western	2·18	1·45	0·91
London and Brighton	2·63	1·71	1·18
London and South Western	2 87	1·89	0·96
" "	2·03	1·43	
Midland	3·00	2·00	1·00
South Eastern	2·29	1·54	0·90
"	2·00	1·25	1·00
York and North Midland	2·25	1·75	1·25

Pennsylvania Railroad.

The Pennsylvania railroad, now in course of construction, from Harrisburg to Pittsburg, at the head of the Ohio river, will be 251 miles in length, making the whole distance from Philadelphia to Pittsburg 358 miles. This line crosses the Allegheny mountains at Sugar Run Gap; and from Harrisburg to the base of the mountains, a distance of 133 miles, the line follows the valley of the Juniata river, and has no grade greater than 21 feet per mile.—The curvatures are easy, and the road adapted to high velocities. The mountain is ascended on the eastern side by 13·3 miles of a high grade of 80 feet per mile, similar to that of the Western railroad of Massachusetts. The summit of the mountain is then passed by a tunnel 700 yards long, and the line from the summit to Pittsburg is 106 miles long, with a maximum grade of 53 feet per mile.

The railroad distance from Pittsburg to Cincinnati will be 330 miles by the way of Massillon, and Wooster and Columbus, while the distance by the Ohio river is 495 miles, or one half longer than the railroad, and the railroad may be traversed in about one-fourth the time required by steamboats on the river. The railroad in Ohio, for the greater part of its length, will traverse the table lands of that state, which are very favorable for railroad construction.

New York Canals.

The Albany Evening Journal says: "The tolls received up to the 22d ult., on all the canals, was $3,217,852 39. They may possibly reach 3,300,000 before the close of navigation—but they are more likely to fall 25,000 or 30,000 short of that sum. But this will be satisfactory. Very few supposed that they would reach 3,000,000, although last season they exceeded 3,600,000. But the last was an extraordinary year. The famine demand for our breadstuffs in Europe, caused an unparalleled movement of flour, wheat, corn, etc., from the west, during nearly the entire season. Every available craft was called into requisition. The canal was filled to its utmost capacity, and revenue flowed into the treasury with a rapidity equally unexpected and gratifying. To such an extent did this demand effect the revenue, that the tolls of 1847 exceeded those of 1846 nearly one million, although the foreign demand was felt for several weeks, towards the close of the navigation of the latter year.

"The comparatively abundant crops in Europe last autumn, precluded all hope of heavy exportation during the season just closed; and it was very generally supposed that the tolls of 1848 would show but a slight increase, upon those of 1846. And the receipts of *that* year, rather than those of the last, were made the basis of the estimates for this year. Some of our most experienced financiers estimated the receipts of 1848, at 2,800,000; others at 3,000,000: and the most sanguine at 3,300,000. The result shows that it is only the sanguine who can approximate accuracy when estimating upon the vast and increasing trade of the great west."

Virginia Canals.

We find the following report of the chief engineer of the "James River and Kanawha Company," in relation to the improvement of the western portion of their line, in the Richmond Republican, and give it a place in the Journal.

RICHMOND, November 30, 1848.

Dear Sir: In compliance with the request of the committee of which you are the chairman, I beg leave, through you, to lay before them the following memoranda.

There have been, from time to time, various plans submitted to the company for the improvement of the Kanawha; sluices, shutes and canals in the river, have been severally recommended, and then various combinations of these plans, with a dam occasionally thrown in, have also been proposed.

I would mayself recommend the lock and dam system. Upon this plan of improvement, between Charlestown and the Ohio, a distance of about 58 miles, with a descant of 45 feet, there will be three dams, one at Arbuckle's shoal; one at Red House shoal, and one at Tyler's shoal; the first 16 miles, the second about 33 miles, and the third about 53 miles from the Ohio. The cost will be about as follows:

For a dam and lock at Arbuckle's shoal, including land damages	$80 000
Do. Red House shoal, do	70,000
Do. Tyler's shoal, do	60,000
For opening a channel through 13 miles, shoal below Arbuckle's, and deepening the heads of the ponds	5,000
Total cost of improvement between Charleston and the mouth of the Kanawha	215,000

From Charleston to Loop Creek shoal, the distance is 32 miles and the fall 38 feet; three dams would also be required here, one at Catfish shoal, 11

miles above Charleston, one at Point Creek shoal, about 21 miles above Charleston, and one at Lykin's shoal, about 25 miles above Charleston.

The probable cost for a dam at Catfish shoal, including a lock and land damages	$60,000
Do. Point Creek shoal, do	60,000
Do. Lykin's shoal, do	60,000
For deepening the ponds	5,000
Total cost from Charleston to Loup Creek shoal	185,000

Loup Creek shoal is about five miles below the Great Falls; in this distance the fall is about 22 feet. If it be desired to extend the improvement up to the foot of the Great Falls, two dams more would be required, and their cost would be about 60,000 each.

The above estimate is for contract prices. If the dams are built on the company's account, the estimate may be reduced 20 per cent.

Yours, very respectfully,
WALTER GWYNN,
Chief Engineer, J. R. & K. Co.

Col. W. M. PEYTON.

It is possible that the great interests of Virginia may be best promoted by this mode of improving the navigation of the Kanawha, but we cannot possibly see it. If the State can raise 200,000 dollars to expend on the west side of the mountain, why not expend it in that way which will do the most service and pay the best returns? Build such a work *now* as will be used *hereafter*, and not do as Pennsylvania *did*, and then after a few years have to do as Pennsylvania is *now doing*, viz; building a railroad directly along side of, or *near to, her canals!* If, however, the State is able to make a canal *now*, and then, in a few years, make a *railroad* also, the people may be content to *wait*, but there is, in our opinion, nothing more certain than that a railroad *must be eventually* constructed, from the Ohio to tide water, in Virginia, whatever other plan may *now* be adopted. And we now desire to put on record the opinion, and respectfully to direct the attention of those who lead in the matter, to what is now doing in this State.—*As it is here, with our canals*, so will it be eventually in Virginia—they *must* and *will* have railroads.—Where else, than in Virginia, do we hear of the construction of a long line of canal to *connect* two important points for travel and transportation? Echo answers, *where?*

Advantages of the Telegraph System when Properly Managed.

The following extraordinary feat in telegraphing an *acre, nearly*, of words, as described in the Baltimore American, by Messrs. O'Reilly and his associates, shows what may be accomplished when rivalry urges enterprise. May we not imagine that it would have been *after this*, when such an extraordinary performance would have taken place, had there been no rivalry in the field? And it would seem by the accompanying article from the Cincinnati Gazette, that the telegraph may be used for much nobler purposes than that of sending political disquisitions and electioneering documents. It may save many a noble fellow, and staunch ship, by sending a few words *ahead of the wind.*

We give first an account of what *has* been done, and then of what *may* be done.

WONDERFUL TELEGRAPHIC FEAT.

One of the most astonishing feats in telegraphing, says the Baltimore American, of 7th inst., has just been accomplished between this city and St. Louis, Mo., in the transmission of the president's message between the two cities. Messrs. O'Reilly, of the Atlantic and Lake telegraph company, and H. J. Rogers, of the American telegraph company, wishing to prove beyond all cavil, that the *lightning line* could be made available for the transmission of large documents as well as for short messages, determined to take advantage of the president's message as a test, little thinking at the time that it would be of the very inordinate length it has proved to be. For this purpose they stationed the most experienced operators on the various lines under their charge, extending from Baltimore to St. Louis, Mo., the starting point being in this city, where the message was received at 25 minutes before 2 o'clock, by government express from Washington, and by horse express from the Mount Clare depot to the telegraph office in the Exchange. Messrs. Reddish & Hough of Philadelphia, connected with the O'Reilly line, having been detailed for the most important part of the duty to be performed, that of writing the entire document in Baltimore, commenced their arduous task on Tuesday, shortly after its receipt, and at a few minutes before 2 o'clock Wednesday afternoon finished their almost Herculean undertaking—at which hour the signature of James K. Polk and the Washington date were written as plainly and legibly as the caption had been, 24 hours previously.—The two operators were at work, relieving each other occasionally, during the entire time, with the exception of a couple of hours yesterday morning, when they were interrupted by a storm at the western end of the line. They wrote the message out in full, following the copy *verbatim*, even to the punctuation and paragraphs—a thing not usually done in telegraphing. The operators at this end of the line did not keep a register of the number of words contained in the document, but are of the opinion that from the time occupied there cannot be less than *fifty thousand*. In its progress to St. Louis, the message was dropped at the following stations on the line, viz: York, Harrisburg, Carlisle, Chambersburg, Bedford and Pittsburg, in Pennsylvania: Massillon, Cleveland, Zanesville, Columbus, Dayton and Cincinnati, in Ohio: Madison and Evansville, in Indiana; Louisville, Kentucky; and Saline, in Illinois; a large portion of the message reached Buffalo, New York, but the connection was boken off by a storm prevailing at that end of the line before its completion; it was also received at all the minor intermediate stations between this city and Evansville, Indiana—the above mentioned places having all acknowledged its receipt entire. This is truly a wonderful performance, and the gentlemen connected with the enterprise have succeeded in their arduous undertaking in a manner proving them to be able to accomplish anything they may make up their minds to in the telegraph line. The idea of a document filling 12 columns of the Washington Union, or upwards of eight closely printed columns of the American, appearing in print in a city nearly *one thousand* miles distant from Washington, 24 hours after its delivery, is almost beyond belief, and is, perhaps, one of the greatest feats ever performed in this or any other country. As the enterprise was conceived and carried out by the Messrs. O'Reilly and Rogers gratuitously, they certainly deserve, and will no doubt receive the thanks of the entire western press.

THE TELEGRAPH AND METEROLOGY.

The most extraordinary result of the electric telegraph we have seen, says the Cincinnati Gazette, and one of the most decidedly useful, is connected with meterology. The *telegraph* now gives *notice of storms!* For example, the telegraph at Chicago and Toledo now give notice to shipmasters at Cleveland and Buffalo, and also on lake Ontario, of the approach of a northwest storm. The result is practically of great importance. A hurricane storm traverses the atmosphere at about the rate of a carrier pigeon, viz: sixty miles an hour. An extremely violent wind may go faster. All our great and violent storms traverse immense regions of country; in fact they are whirlwinds on a vast scale, and curving over the earth as they pass along. In the space of a thousand miles, however, the direction is nearly the same. Our northwest winds come apparently from the sources of the lakes, and, sweeping over lakes Superior, Michigan and Erie, spend themselves in the interior of the country. Our southwest winds (which prevail three-fourths of the year) come apparently from the Gulf of Mexico, where the force is very great, and pass up the general direction of the Mississippi and Ohio. Commencing at these remote points, it is obvious that if telegraphic offices are established at extremes of the line, notice of the approach of a violent wind may be given to distant ports from 12 to 20 hours before it will be felt there. The practical effect will be, that a vessel in the port of New York, about to sail for New Orleans, may be telegraphed 20 hours in advance that a southwest storm is advancing on the coast from the gulf of Mexico. The storms are governed by uniform laws, so that when they begin in a certain direction, and with a certain force, it may be certainly known that they will proceed along the coast. When it is considered what an immense loss in vessels, merchandise, and lives occur along the coast from these occasional storms, it will be seen how very valuable will be the service rendered by the telegraph in this way. We are only on the threshold of the real substantial advantages which may be rendered by the electro telegraph. Already have notices of storms on the lakes been given from Chicago and Toledo to Buffalo.

In connection with this subject, we may mention another great advantage in this way. It will be a great benefit to meterological science to know the state of the temperature and winds at the same moment in different points. The comparison will enable us to know the general laws which govern atmospheric changes. This is a part of science which has never been reduced to exactitude; but by which more may be done now in one year than has been done in a hundred years, if observations are directed to this subject. We shall soon see new developments in this and in other branches of science.

SARATOGA AND WASHINGTON RAILROAD.

Pursuant to the requirements of the act entitled "An act to incorporate the Saratoga and Washington railroad company," passed May 2, 1834, the directors make the following report:

The preliminary surveys of the road of this company, were commenced in 1835, and the grading of a portion thereof in 1836. This was continued down to near the close of the autumn of that year; when, owing to the non-payment of the second instalment, due on the stock by a large portion of the stockholders, attributable to the deranged state of the monetary affairs of the country, the work was suspended. The expenditures which were made by the company from the commencement of its road till the 30th January, 1847, as appears from the books of their president, and which were mostly incurred in 1835, 1836 and 1837, for engineering, grading, the purchase of lands, and the commencement of a bridge over the Hudson river, were 67,953 03 dollars.

In February last, the directors having suc-

ceeded in obtaining new subscriptions for much of the stock which had been forfeited for the non payment of the second instalment felt themselves authorised to revive the work with a speedy view to completion. For this purpose they entered into a contract to complete the road, including grading, superstructure, a bridge over the Hudson river, a heavy iron rail, and the laying thereof from Saratoga Springs to fort Ann, a distance of about 30 miles, by the first of July, 1848, for the sum of $448,000. In July thereafter the directors made a further contract to complete the road in like manner 9 52 miles further by the first day of October next for the sum of $176,165, and in November thereafter a further contract was made to complete the road to White Hall, a distance of about two miles. As the estimates for grading were at different prices by the cubic yard, depending on the nature of the excavation and embankment, the amount thereof cannot be fully deteterminded till the work is done.

The present capital of the company is $850,000, on 600,000 of which 75 per cent has been called in, and nearly that amount paid. Of the remaining 250,000, which is new stock authorised by an act of the Legislature to be created, the payment of $100,000 is secured by the company, and 10 per cent. has been paid on about 60,000, leaving about 90,000 to be disposed of.

The expenditures of the company down to the 30th of January last, as before stated were,		67,953 03
Since then the expenditures have been as follows:		
For lands, fencing, damages, removal of buildings, expenses of procuring title, &c.	65,314 96	
For engineering,	9,342 97	
For grading,	145,660 70	
For iron rails,	90,000 00	
For interest paid to stockh'lds	4,724 12	
For miscellaneous expenditure	7,446 13	
		322,448 88
		390,401 91

In behalf of the directors of the Saratoga and Washington railroad company.

G. M. Davison, *Pres't.*

Saratoga Springs Jan. 8, 1848.

Railroad to the Pacific,

(*From the Journal of Commerce of Sept.* 16*th.*)

NEW MEXICO AND CALIFORNIA.

Continued from page 789.

The following observations were made after he (Major Emory) was separated from his assistants, and instruments; his mind being, as he says, "engrossed with other subjects. The information is therefore less precise than that contained in other parts of my journal.—p. 24.

"The region extending from the Gulf of California to the parallel of the Puebla, or Cindad des los Angeles, is the only portion not heretofore covered by my own notes and journals, or by the notes and journals of other scientific expeditions fitted out by the United States.

"From this remark is to be expected the vast basin created by the Colorado, and the country lying between that river and the range of the Cordilleras, represented as running east of the Tulare lakes and south of the parallel of 36°, and the country between the Colorado and Gila rivers.

"Of these regions nothing is known except from the reports of trappers and speculations of geologists. As far as these accounts go, all concur in representing it as a waste of sand and rock, unadorned with vegetation, poorly watered, and unfi: it is believed, for any of the useful purposes of life. A glance at the map will show what an immense area is embraced in these boundaries.

"Alta California, between the parallels of 31° and 34° of latitude, presents to the eastern man, accustomed to navigable rivers and broad estuaries of the ocean, topographical features of a very unusual character.

"Two chains of mountains traverse the country in a direction nearly parallel to the sea coast, converging towards each other, and unite near the paralel of 32°,—and form the promontory of Lower California.

"The second or principal range lies at no great distance from the first, and the valley between offers some arable land. The distance from the first range and the sea coast varies from one to twenty or thirty miles.—The surface covered with vegetation is difficult to estimate, and perhaps it is unimportant that an estimate should be made, since the productiveness of those regions depend on other considerations than smoothness of surface and character of soil. The rains cannot be depended upon, and the tiller of the earth depends upon irrigation from the mountain streams for his crops. The extent of ground capable of tillage is thus reduced to very narrow limits, easy of computation. A knowledge of the water courses, their fall, volume and extent, and the quantity of land on their margin, within the level of these waters, are the data on which to base the computation.

"Taking this as a guide, an inspection of the accompanying map will give a general idea of the extent of arable land, sufficiently correct for all practical purposes; but in candor it should be said that many streams laid down in it disappear in the sand, while the rocky cliffs, forming the banks of others, render irrigation impracticable. The scale upon which the map is projected is too small to represent these accidents of the ground.

"Where irrigation can be had in this country, the produce of the soil is abundant beyond description. All the grains and fruits of temperate zones, and many of those of the tropical, flourish luxuriantly.—p. 125.

"The western line of Arkansas and Missouri, extend to 94½° west longitude, and the region of the poor lands without rains, commence at 98½° longitude. This intermediate space is occupied by the removed Indians.—A route through Arkansas or Missouri, except to run north or to the general route to Santa Fe, would be impracticable. For a part of the year the streams flood the country, and no considerable amount of land applicable to the work. Therefore here are no lands, even on the first part of the route; and when we reach the Rio del Norte, we find the quality of the land suitable to sustain population even by irrigation, very small indeed; and that too already occupied, perhaps nearly to its full capacity.

"The elevatiens of this route were taken by Lieut. Emory daily, and often several times in a day, commencing on the Kansas river, 850 feet above the sea, and running up to 7754 feet, where they crossed the Raton," Aug 7th, 9 days before their arrival at Santa Fe, over a variety of surface. Elevation of Santa Fe 6846 feet. Then in 19 days over a variety of surface, descend to 4138 feet, and in five days up to 6167 feet. The next day down to 4587 feet, and thus varying up and down to the Colorado, 176 feet above the sea. Thence between that and the Pacific over a "pass" 3050 feet, then immediately down to the ocean.

Mak., on July	20, 29	miles	to av.	33	ft. p. m.
" Aug.	2 to 7, 30	"	"	53½	"
" "	7, 7	"	"	83½	"
" "	9, 47	"	"	35	"
" Sept.	21, 40	"	"	49½	"
" "	29, 46	"	"	44½	"
" Oct.	17, 38	"	"	33	"
" "	20, 8	"	"	225	"
" Nov.	1, 10	"	"	220	"
" "	6, 38	"	"	42	"
From the Colorado to the ocean.					
" Dec.	1, 15	"	"	141½	"
" "	6, 10	"	"	233½	"

Lieut. Emory makes the distance from Fort Leuvenworth to San Diego, ... 1916 miles.

Col. Cook's bend to the south, before the Colorado, gave a better route, but must have increased the distance at least . . 150 miles.

Making, ... 2066 miles.

Now the distance from San Diego Shanghai would be full 1000 more than from Puget sound to the same place. . . 1000

3066

Now Memphis is 4 deg. 32 min. east of Fort Leavenworth, and is from the topography of the country, a route from Memphis must run north-west until it would strike the Fort Leavenworth route to Santa Fe, the distance would therefore be greater than from Fort Leavenworth.

From the maps published by order of the Senate, arranged from Col. Fremont's report, by Mr. Pruess, it appears that the distance from Westport, Missouri, (about half a degree east of Fort Leavenworth) to Wallah Wallah on the Columbia, is, via the "south pass" and the route of emigrants, but 1670

On a line from Wallah Wallah to Puget sound, is not over 120 miles, but a good route may be had at less than . . 200 miles.

1870

The route from the south pass to Wallah Wallah would be considerable shorter, by following the Salmon river which entirely turns the mountains. It is not now practicable for wagons, but it is practicable for a railroad at low grades. Lake Michigan is but 6½° east of Westport; therefore, on a line from the lake to the pass, only about 300 miles would be added, with a far more feasi-

ble route than the other, and the lands adequate to furnish the means for the work.

Col. Fremont, in his memoir to the Senate, represents that there is in the Sacramento valley, 50 to 60 miles wide by about 500 long of the very best land, — the northern part producing wheat and other grains without irrigation. He also represents a considerable extent of bottom land on a river in the "great basin." This, then, is all of the immense territory, which in the opinion of many, now threatens to divide our glorious Union. Col. Fremont says there is a good route for a railroad from the "south pass" to San Francisco, with a country suitable to sustain population on nearly the entire route. —As California is, without a direct railroad communication, it can be of no use to us, and all we expend upon it, or Oregon is but fostering and rearing, with a hot-bed force, a rival to compete with us for the commerce of all the world; and in time entirely supplant and control us.

Take California, with all Oregon below and above 49°, Vancouver's Island, and other islands, together an immense agricul tural country, with the best climate in the world with all its advantages for a manufacturing population, with its fisheries -- more extensive and valuable than all the world beside—a cod fishery extending to the entire coast of Japan and China; and then its position, fronting all Asia with a population of 700 millions,—and will not such advantages soon draw the enterprise, capital and surplus population of the world to it? And of what benefit is it all to us, without the means of a direct communication? We cannot buy their products because we have the same for sale, and must both seek the same markets. No exchanges can take place between us. They must and will command the markets of all Asia,—a commerce entirely their own. They can exchange many of their products with Europe, but we can take nothing from them, and they cannot benefit by the connection. Differing from our interior wilderness, the settlers in which must go through or from our old states, their products must come to us for a market. We exchange and receive the benefits of their labors. But Oregon and California must send everything from us, and to compete with us. Even the whale fishing (a now very important branch of our commerce) must and will, (so soon as we establish and sustain laws with force to render persons and property safe), be transferred there altogether. The vessels can enter at Vancouver's Island, and the oil be sent to England. And would the people of Oregon and California pay 30 per cent. duty on imports. to go to the foreign government from which they could receive no benefit.

I am not mistaken in my views, and every man of reflection who will examine must see as I do.

Without a railroad to connect us directly together, by which the commerce and intercourse of Europe with Asia could be drawn across our continent, so that we might participate in each other's local position and advantages, we can neither receive any benefit from each other, but our interests will be separate, distinct, and conflicting.

I am not mistaken; all Europe is tumbling to pieces, groaning under a load which cannot be borne. The enterprise and surplus population must go somewhere—and where but to this continent? And where such a field as Oregon and California? Nor is it idle to fear that *all* of England's power may be there transferred under a free government. Commerce and civilization have always travelled west together; and when to the Pacific coast, the globe will have been encircled, and all controlled. It is now all ours, within our grasp, and shall we throw it from us forever?

Truly yours, A. WHITNEY.

Messrs. Hale & Hallock.

New York, Sept. 12, 1848.

Baltimore and Ohio Annual Report.

Continued from page 793.

ENGINEER'S OFFICE, BALT. & OHIO R. R. }
Baltimore, Oct. 1st, 1848. }

Hon. LOUIS MCLANE, President.

SIR:—The second annual report of this department, under the revised organization of the service which went into operation upon the first of May, 1847, is herewith respectfully submitted under the following arrangement of the several subjects to be noticed.

I. *The Working of the Road*, viz:

1st. The maintenance and improvement of the road. 2d. The maintenance and improvement of the machinery. 3d. The conduct of the transportation. 4th. The revenue expenditures and trade.

II. *The Extension of the Road*, viz:

1st. West of Cumberland.

2d. East of Mount Clare.

The principles upon which the new organization has been framed are detailed in the last annual report. It has worked well, although with some drawbacks upon its efficiency, which may be briefly mentioned.

The want of suitable *scales* for weighing freight at most of the stations. This deficiency has now been remedied, and each of the thirty-nine stations upon the line is fitted with the necessary accommodations for this purpose. The time required to effect this object, however, postponed the application of the new system to the tonnage business of the road, until the 1st of March last.

The absence of *enclosures* to the several stations, whereby the operation of the ticket system in the passenger business, with its salutary checks is made imperfect. The erection of these enclosures would require an outlay as yet considered inexpedient; but which must ultimately be made. The same deficiency exists upon the other railways of the United States. In Europe the abundance of capital permits the construction of the stations in the most perfect manner, and the cheapness of labor allows the employment of the police required to carry the necessary regulations into full effect; while the travel resulting from a dense population requires every precaution in the collection of the revenue from passengers, and warrants the expense attendant upon its adoption.

Another difficulty in the execution of the new system has arisen from the nature of some of the agencies employed. The agents of the second class stations upon the line, not being regularly salaried officers of the company, the services required of them are not performed with the precision which would otherwise be expected of them. This inevitably results from the present circumstances of the work, which, passing chiefly through a sparsely settled country, would not warrant the employment at these stations of a class of agents whose exclusive attention to the company's business would have to be secured by a compensation amounting in some instances to more than the entire revenue yielded by the station.

In addition to these observations, it is proper that I should state, that the performance, in their numerous details, of the duties devolved by the system upon the *General Superintendent*, has been, as the board are aware, impracticable, in consequence of the large proportion of the time of the officer acting temporarily in that capacity which has been necessarily devoted to his other and primary engagements as chief engineer; and which have withdrawn him frequently and for long intervals from the road.

These several impediments, not inherent but accidental, being removed, as they must in time be, the new system will without doubt realize all its anticipated advantages, as it is unquestionably founded upon sound principles of administration.

I proceed now, in order above indicated, to submit the several results of the operations of the road, during the year ending this day, with an account of its present condition, and comparisons with its own working of the previous year, and that of some other leading lines in the country.

I.—OF THE WORKING OF THE ROAD.

Maintenance of Road.—Main Stem.

1. *The Road Bed.*—There is but little remark to be made under this head, excepting what will be said hereafter upon the *improvements* east of the Monocacy river. The road surface, culverts and drains are generally in good condition and have suffered little from water during the past year.

2. *The Railway Tracks.*—At the beginning of the year just expired (Oct. 1st, 1847) there were the following lengths of track of different kinds:

Harper's Ferry

Plate rail, east of, laid in 1830–31,	51	miles.
H rail, east of, laid in 1838,	19	"
∩ rail, west of, laid in 1841–2,	97	"
∩ rail, east of, laid in 1846–7–8,	41	"
Making a total of	208	

Since the 1st of October, 1847, there has been laid east of Harper's Ferry, 17 miles of ∩ rail, in place of an equal length of plate rail; so that the account stands thus at this date, Oct. 1st, 1848:

Harper's Ferry

Plate rail, east of, laid in 1830–31,	34	miles.
H rail, east of, laid in 1838,	19	"
∩ rail, west of, laid in 1841–2,	97	"
∩ rail, east of, laid in 1846 7 8,	58	"

Of the 61 miles of ∩ rail directed to be laid east of Harper's Eerry, there are therefore but 3 miles still to lay, the materials for which are provided, and will be put down as soon as the new gradation of the parts of the parts of the road for which they are intended is ready to receive them.

Apportionment of the Cost of Repairs of Railway among the different kinds of Track upon the Baltimore and Ohio Railroad, during the year ending September 30th, 1848.

Description of Track.	No. of miles.	Cost of labor.	Cost of lumber.	Cost of iron bars.	Cost of castings.	Cost of bolts and spikes.	Miscellaneous.	Deduction for old materials sold and for stock on hand.	Average cost per mile.	Total cost.
Plate rail.....	44	$18,420 79	$10,471 64	$4,136 54	$1,597 08	$3,447 19	$6,560 11	$4,192 57	{ 920 / 821 }	$40,440 78
H rail.....	19	9,109 85	5,437 66		1,312 15	1,902 97	1,752 13	3,942 13	{ 820 / 756 }	15,572 63
∩ rail east of H. Ferry..	48	16,138 28	1,200 00		651 36	392 60	2,390 37	4,664 22	{ 336 / 269 }	16,108 99
∩ rail west of H. Ferry..	97	45,542 28	49,462 42		4,782 58	5,036 41	2,865 75	12,446 19	{ 982 / 932 }	95,243 25
Totals.....	208	89,211 20	66,571 72	4,136 54	8,343 17	10,079 17	13,568 36	24,545 11	{ 805 / 741 }	167,365 05

The above aggregate of $167,365 05 agrees with the statement of the Treasurer—but there must be deducted the sum of $3,066 38 for increased stock of materials on hand, which leaves 194,298 67, as the true cost of maintenance.

The above amount embraces the expense of maintaining no less than 21 3 8 miles of siding and depot tracks.

Of the 34 miles of plate rail remaining upon the road, 2 miles is in the city of Baltimore, between the City Block and Mount Clare depot—13 miles in the second track between Mount Clare and Ellicott's Mills—13 miles in the second track between Parr's Ridge and the Monocacy, 3 miles in the Frederick branch, and the 3 miles ready to be relaid as above. The lighter half of the business of the road passes over the second and third of these sections, which has made it the more practicable to keep them up. The section in the city of Baltimore has been relaid during the year with a thicker bar, and upon timber instead of stone, as will be noticed under the head of "Improvements."—The Frederick branch being short and the weight and speed of the trains moderate, may be maintained well enough with the plate rail. Nevertheless the expediency of reconstructing the whole of this track with a heavy rail, so soon as the means of the company will allow, cannot be questioned.

The cost of the current repairs of the track thus composed, has, during the year just ended, been as exhibited in the following table. The number of miles of each kind of track is the *average* kept up throurh the year, the ∩ rail east of Harper's Ferry increasing as the plate rail decreases in extent. In the column of "cost per mile," the upper figures opposite each description of rail, include the ditching, &c., of the road bed, not dependent on the kind of track, and the lower figures show the cost of maintaining the track alone.

The preceding apportionment is sufficiently exact to show the relative cost of maintaining each kind of track during the year—and from it may be inferred that if the plate rail had been entirely superseded by the ∩ rail, the saving in current repairs would have been $22,288 00.

During the preceding year, ending September 30th, 1847, the total cost of maintenance was $131,926 30. The expense then of the present year exceeds that of the last by $35,438 75. This is chiefly due to the extensive renewel of the wood work of the H rail track, and of the ∩ rail track west of Harper's Ferry, which last as noticed under this head in my last annual report, (see page 36), is now in the seventh year since it was laid, and is passing through the period of entire renovation, which will be completed by the end of the current year terminating with 1849. The repairs of the coming year will, however, be very considerably lighter than those of the year just closed.

Some remarks upon the character and wear of railway tracks may be appropriate in this place,—as an impression appears latterly to have prevailed that the description of track laid west of Harper's Ferry in 1841 42, and east of that point, in the reconstruction of the road in 1846 7 48, is more costly to maintain as well as to construct, and otherwise imperfect in its structure. This plan of track was adopted by the board for the road west of Harper's Ferry after a careful consideration of the whole subject by their late chief engineer, J. Knight, Esq., aided by the undersigned. The H rail track, of which the company had 19 miles laid in 1838, had, in their judgement, shown serious defects in its structure, similar to those apparent in tracks of the same kind on other roads, and which they believed would in a great measure obviated by the use of a continuous bearing of timber under a rail of the same weight, but of a form better calculated to *wear* well. They therefore chose the ∩ or bridge rail in connection with a string timber for its support. The subsill used upon most other roads at this time was retained, and in consequence of the use of this additional longitudinal timber the number and size of the crossties were so much diminished as to give very little mere perishable matter in the track,—than in those laid upon crossties only. The only changes, therefore, in the plan of 1838, were in the form of the rail and the introduction of a light wooden bearer under it, which breaking joints with it, gave a great increase of strength at the end of the bars,—and supported the rail and held it much better in place *lengthwise*, than it was practicable to do with the crossties alone. This part of the plan was not new; but had been in successful use on the Washington branch road for several years. It was also a feature in some of the principal lines in England, and was advocated and preferred by some of the most distinguished engineers of that country, and was growing into favor in America also;—the first section of the New York and Erie railroad having been laid in that way. It is true that in New England and other parts of the United States, the continuous bearing under the rail was not then used, but the crosstie alone, or in connection with the sub-sill, was preferred. More recently, however, the continuous bearing seems to have recommended itself to New England engineers;—as the great line of railway from Portland to Montreal is to be laid on that plan, and also the road from Portland to Augusta, and what is worthy of remark, the Eastern railroad from Boston through Salem, etc., is being reconstructed with a continuous bearing, having been originally laid upon crossties only.

A similar example, nearer home, is also to be seen in the Philadelphia and Trenton railroad, and the Camden and Amboy railroad, where the continuous bearing appears to be superseding the crosstie. In the state of Georgia, it may be added that the continuous bearing is used and considered preferable.—These observations are offered to show that the engineers of the company, at the track of 1841 was planned, were supported by the authority and practice of eminent engineers elsewhere, and that the experience acquired since then has led others to the same conclusions.

In comparing the cost of maintaining this track with that of others of a different form, it is difficult to select any road of sufficiently similar character in all respects to make the comparison satisfactory. The Western railroad of Massachusetts perhaps more nearly resembles the Baltimore and Ohio railroad than any other existing line. Upon the Western railroad, in the year ending December 1st, 1847, the sixth year after its opening for its whole length, the cost of repairs per mile of single track was $1,180; while upon the Baltimore and Ohio railroad west of Harper's Ferry, the cost per mile for the year ending this day, being also the sixth year after its opening, is $982. So that the western road appears to have cost $198 per mile more than the Baltimore and Ohio road. The number of trips made by trains over the whole length of each road, and the operation of that cause of wear and tear, differed but little. The iron rail upon the Baltimore and Ohio railroad weighs but 51lbs. per yard—that on the western railroad from 56½ to 70lbs. per yard; yet the cost, in 1847, of renewing iron on the Western road was $29,-119, or at a rate of $213 per mile, while upon the part of the Baltimore and Ohio rail-

road in question it was *nothing* during the year just expired, and promises to be nothing for some years to come. The cost of renewing iron on the western road was, in the year 1846, $24,522, so that within the two years prior to the present, there had been $53,641, spent in renewals of iron. The amount expended before that period is not shown in the published statements of the company, but must have been something, and the renewals this year will probably be considerable, as when iron begins to go, its destruction advances with accelerated speed. That this difference in the wear of the iron has something to do with the general structure of the track as well as the form of the rail, cannot be doubted. The reason simply is that the lighter rail of the Baltimore road is better *supported*, especially at the *joints*, where the chief destruction takes place, and the result of this comparison clearly shows that increased weight in the rail is not of itself sufficient to secure increased durability; but that the form of the rail and the frame of the track have an important influence upon the wear of the iron bar.

It may be observed that the H rail track on the Baltimore and Ohio railroad, laid on crossties, appears, although four years longer in use, to have cost this year less by $176 per mile than the ∩ rail west of Harpers Ferry with the string piece. But it is to be said, on the other hand, that although the H rail track is the older, yet it has not carried much more than the other: as the most of it is on a part of the road where the trade is divided between two tracks. Moreover the iron of the H rail had, when as old as the ∩ rail is now, sustained much injurious wear, and although not many bars have been yet removed entirely from the track, yet a great number are so far gone as to be nearly unfit for further service. The next two or three years, will, it is believed, show a decided difference in the wear of the tracks in favor of the ∩ rail with its continuous timber bearing.

It is objected to the track of continuous bearing, that it is less readily adjusted when out of order, than the track upon crossties alone. This is in a measure true; but on the other hand it is less subject to derangement, so that on the whole it may require no more labor to keep it in order. It is said to be more subject to give way sidewise by the yielding of the timber. There may be more weight in this suggestion; but the difference of risk is after all inconsiderable, so long as the timber remains sound. Accidents from this cause have happened, but they have been always (except in case of decay in the timber) where the curvatures were extreme, and in these cases they have occurred upon the one kind of track as well as the other. After all, however, that can be said on both sides, it must be conceded that in the simplicity of the crosstie track there is much that is attractive; and were means found to obviate the evils arising from the greater imperfection of the joints of the bars on that kind of track it would in the main, be preferable. This, in the opinion of the undersigned, can only be effected by an entire change in the form of the iron rail, by which the advantages of the combination which it possesses with the continuous timber bearing may be realized in the rail itself. Apart from this consideration, however, I am of opinion that it would be unwise to adhere to either plan *uniformly*, but that the one or the other should be chosen as it may be best suited to the local peculiarities of the line; as it is the duty of the engineer always to adapt his modes of construction to the circumstances of his work. Accordingly he did not hesitate, in the report upon the route west of Cumberland, which I had the honor to submit to the board on the 8th of April last, to recommend that the string timber should be rejected and the crosstie alone used (except on fresh embankments where a sub sill should be temporarily laid) in connection with a heavier rail than would be needed with a continuous bearing, and a more carefully planned and perfect fastening than any of those heretofore used, and whose inefficiency has been so fully demonstrated upon the best railways of the country.

These remarks might be greatly extended, in a further discussion of the subject; but the space already devoted to them is as much as can be spared here, and I would only offer the further remark, that in comparing the wear of tracks on different roads, we should be careful to consider the relative *trade* of each, upon which the wear and tear chiefly depends; and when we see a road of moderate or light traffic apparently in better order than one of heavy trade with a different kind of track, we should not hastily conclude that the difference in the condition of the road is attributable altogether to superiority in the structure of the one which happens to be in the best condition.

To return to the subject of the repairs of the track of the Baltimore and Ohio railroad during the year just expired I would in conclusion, state that although the present renewals are of necessity made with green timber, yet that after the renovation now in progress shall have been completed, which will be in all the current year, there will be always a years supply of timber kept on hand so as to permit its thorough seasoning before its introduction into the track—(See last annual report page 36).

3d. *The Bridges.*—The reconstruction of the wooden bridging has been prosecuted steadily throughout the year, and several additional viaducts have been rebuilt in the thorough and substantial manner in which the preceding work of the same kind was executed, and which has continued to exhibit the most satisfactory permanence under the heavy and increasing trade of the road. Of the thirteen large viaducts between Baltimore and Cumberland, nine have been thus built anew, and the remaining four, whose original construction took place under more favorable circumstances than the rest, and which have suffered less from decay and wear and tear, are in the perfectly safe condition which will permit their reconstruction to be effected at the convenience of the company. Much of the materials for rebuilding them have however been provided.

The entire outlay during the past year under this head has been $59,509 18, being apparently $5,854 56 less than in the preceding year. The cost of rebuilding masonry injured by high water, amounted to $2,854-04. The cost of ordinary repairs of wooden bridges is again estimated (as in the last annual report, page 38) at $6,351. The decrease in the stock of materials on hand is $5,003 15. Subtracting the last amount from the sum of the two immediately preceding it, and deducting the remainder from the total amount previously stated, the investment in permaneat improvements of the wooden oridges, chargeable to capital, will be $54,-307 29.

Watching Bridges.—The expense of this during the year has been $8,105 26, being $1,055 61 more than the previous year. No further increase of this item can be required.

4th. Depot Buildings.—For the year just ended the repairs of these structures have amounted to $14,990 85, and $447 46 being deducted for increase in the stock of materials for that purpose, it will be decreased to $14,-543 39, being $1,979 33 less than in the year before. Several entirely new buildings have been put up, which will be noticed under the appropiate head of "Improvements."

5th. Water Stations.—The repairs under this head have amounted to $3,946 83, being apparently $1,496 70 more than those of the preceding year, but really only $568 32, the stock of materials having increased $928 38. The condition of the water stations is good and growiug better, as they have from time improved fixtures applied to them in the course of repairs.

Pumping Water.—This has cost $3,907-09 in the year just closed, being $845 41 more than in the year before.

Maintenance of Road, Washington Branch.

1. The *Road Bed* is in a good and improving condition.

2. The *Railway Track* is also in good order. The light rail upon this road (40lbs. per yard.) and the absence of a suitable bed of stone or gravel under the timber have always rendered it inferior to the newer track upon the main stem. The iron has, however, worn very well, being of good quality, and not subjected to very severe usage. The cost of repairs of road has been $25,909 61, which, being reduced $254 52 for increase of stock of materials on hand, becomes $25,-655 09, and is $7,254 73 more than the repairs for 1847.

3. *Bridges.*—In a note (page 40) of the last annual report, the destructive flood of October 7th, 1847, was briefly noticed. It carried away the two stone bridges of 50 feet span each, at the Savage Factory railroad, over the Little Patuxent, and at Bladensburg over the north-west branch of the Potomac. Also the large arched culvert near the Laurel Factory, over Snowden's branch—a smaller arched culvert opposite Vansville upon a branch of Piney Run, and two box culverts, at Contee's and Calvert's branches. The waters rose to an unprecedented height and caused extensive damage upon other works,

although the main stem of this road received very little damage from it. The extensive breaches in the line were crossed in about a week by substantial trestle bridges which are still standing, it having been deemeed expedient by the board to postpone the permanent reconstruction of those viaducts for the present. Of the smaller structures, the Laurel Factory culvert has been rebuilt, with much enlarged water way, and the remaining smaller ones will be replaced within the current year. This disaster has added considerably to the cost of repairing bridges upon this road during the past year. The expense has been $7,025 93, being $5,117 45 greater than in the year 1847.

4. *Depots.*—The repairs under this head have been $306 12, being $645 34 less than in the prior year.

5. *Water Stations.*—Repairs for the year, $225 66, being 197 73 less than in 1847.—The pipe of the two stations at the Savage road and Bladenburg, which have been discussed for many years, has been taken up and a portion of it laid upon the main stem at Martinsburg.

Summary cost of Maintenance of Road.

Main Stem.—The charge upon the company's books against the repairs of road bed and railway tracks, bridges, depots, water stations, pumping water and watching bridges during the year ending September 30th, 1848, is $257,824 26

To which add the decrease in the value of stock on hand for repairs accruing during the year and amounting to . 559 94

And the true cost of maintain- the road and apurtenances will be 258,384 19

Which is 43,338 55 more than the previous year.

Washington Branch.

Total charge upon the books 34,081 32
Deduct increased value of stock on hand . . . 254 52

Actual expense of maintenance 33,826 80

Which is 12,465 59 more than that of the preceding year.

Improvements of Road, Main Stem, Road Bed.—The improvements authorised in the location of the road at certain points east of the Monocacy river, have been in progress during the past year, and are far advanced, although several circumstances not necessary to be here detailed, have unavoidably delayed their completion, which may not take place till some time in the course of the current year, perhaps near its close. All the minor changes in the road bed have, however, been some months finished, and others are from time to time completed and brought into use. The entire expenditure under this head has been to this date, $129,597 34, leaving 70,448 66 still to be expended according to the original estimates,(not including right of way.) The work therefore is but two-thirds done. When completed, the extreme curvature upon the line will have been enlarged from 400 to 600 feet radius, except at two points, the Washington branch junction, immediately west of the Relay house, and the crossing of the Patapsco at the Ilchester Mills. The proposed improvements at these points have been postponed, but will require ultimately to be made, and the one at the Relay house should be effected with as little delay as possible.

The capacity, and safety of the road and machinery will be considerably increased when this system of improvements is entirely completed.

Tracks — Reconstruction. — As already stated under the head of "maintenance of road," there have now been laid, in 1846–7 and '8, 58 miles of new track east of Harper's Ferry, and but 3 miles remain to complete a continuous line of heavy rail from Baltimore to Cumberland. The new track carries the eastward or heavier tonnage upon the 26 miles on which there are two tracks, one of them the original plate rail. The total expenditure to this date is 625.616 16.—The total estimated cost of reconstructing the entire plate rail track, 92 miles in length,—was 971,520, of which there has, therefore, been expended nearly two-thirds.

The two miles of stone sill track in the city of Baltimore has been replaced by a substantial wooden track with a plate rail of increased thickness. The change is in every way beneficial, although the improvement is but partial, and must ultimately be completed by a heavy rail.

New Sidings.—The length of sidings for passing the trains and at depots, has been considerably increased during the past year, principally by allowing portions of the plate rail track to remain on the reconstructed parts of the road. These sidings constitute in fact a second track, although, being in detached sections, not exceeding about a mile in length they are not so called, in stating the length of track upon the road. This, as above set down, is 208 miles, whereas in fact when the sidings and depot tracks are brought into the account there is found to be no less than 229⅜ miles of single track upon the road.—So that in giving the average cost of repairs per mile me might use a much larger divisor with a great reduction of the average. It has been generally, however, considered preferable to treat the sidings and station tracks as appendages to the maic track, and to charge the cost of their maintenance as an incident to the latter, and this custom has been adhered to on this occasion.

Station Houses.—During the year there have been considerable improvements under this head. The house, platforms, etc., at the Monocacy and junction of the Frederick branch have been enlarged and refitted in a manner required by the convenience of the public. A building much needed for the accommodation of passengers has been placed at Sir John's run. The passenger shed and ticket office at Cumberland has been rebuilt and enlarged, and a new and substantial brick freight house has been erected there.—The dilapidated shed upon the Charles street lot in Baltimore has been renewed in an improved manner, and a small building for storing freight, with a stable, etc., has been erected along side of it. A ticket office has been built at the Relay house, and the one at Martinsburg improved. Several additional platforms have been placed at sundry stopping places. By these improvements the comfort of the public travelling upon the road has been greatly promoted, with good effects upon the interests of the work.

Scales.—As already stated, the road has been thoroughly fited out with scales, at all the stations, of each class. They are of the best construction. At Mount Clare the new scales are placed within a new weigh-house, with the offices over head, an arrangement, novel, and remarkably convenient and compact, and forming one of the best and most needed improvements upon the road.

Water Houses.—One new water house has been erected duriug the year, near the 48th mile post. It is supplied by a copious spring conducted to it in pipes, and is a valuable addition to the appurtenances of the road. Some improvements have been made in the machinery of other of the water stations.

Workshops.—The shops at Mount Clare depot, in which work has been done for the road department, consisted of several small and half-ruinous wooden buildings, which have been removed, and replaced by a commodious brick building. The smithy attached to the foundry, has also been enlarged.

In general it may be stated under the head of improvements to the road, that it is in a very superior condition to that in which the end of the preceding year found it, and that nothing has been added to it which was not indispensible.

Maintenance of the Machinery.

1. *Locomotives and Tenders.*—At this date the company owns 57 locomotives, viz:—18 of the first class, 4 of the second, 15 of the third, and 20 of the fourth class—the total equivalent to 104 of the fourth class. The names, class and other particulars of these engines are exhibited in the annexed table—marked E. Out of the whole number, 52 are employed on the main stem and 5 on the Washington branch. Upon the main stem 6 engines, 3 of the third and 3 of the fourth class, run regularly with passenger trains—the remaining 46 with freight trains; although the third and fourth class engines among them are occasionally put upon the passenger trains. Upon the Washington branch 2 engines of the third class run regularly with passenger trains, and 3 of the 4th class with freight and passengers. From the table above referred to, the following particulars of the working of the engines are derived and presented in a condensed form:

Performance in Miles Run—Main Stem.

	miles.
18 1st class engines, with freight trains....	249,621
4 2d class engines with freight trains....	40,119
13 3d class engines with freight trains....	159,319
The same engines with passenger trains	133,808
17 4th class engines with freight trains....	249,846
The same engines with passenger trains	81,980
52 engines of all classes with passengers..	215,788
do with freight.....	698,905
Making a total with passengers & freight	914,693

Washington Branch.

2 3d class engines with passengers.....	54,220

3 4th class engines with passengers.....	34,350
The same engines with freight trains..	36,216
5 engines of both classes, with passengers	88,570
do with freight.....	36,216
Making a total with passenger & freight.	124,786
57 engines of all classes, upon both roads with passengers.....	304,358
with freight.....	735,121
Making a total with passengers & freight	1,039,479
The average of the 18 first class engines, with freight alone, has been each.....	13,868
The average of the 4 second class engines, with freight alone, has been each.....	10,030 23,156
The average of the 20 fourth class engines with freight and passengers has been each.....	20,120

Five engines of the first, two of the second class and one of the third, have been less than a year upon the road, having been placed upon it at various times since October 1st, 1847. Hence the average performance of those classes has been less in proportion to that of the fourth class, the number of which has not been increased during the year, but on the contrary diminished by the transfer of two of its number to the third class, in reconstructing them so as to add to their weight and power.

So many circumstnnces influence the amount of work done by each class that it would be unsafe to infer from the comparison of miles run by each that one class was more efficient than another. In their several departments of duty they are all useful—although it is, in general, true that freight is most economically transported by engines of the first class, and passengers by those of the third class, upon a road of this character.—Another general deduction from the relative duty in miles run, is that the passenger engines with their lighter loads, and higher speed and more regular routine of duty, lose less time unemployed and under repair, than freight engines.

Performance in tons hauled one mile.

Of the 57 engines upon the road, (main stem and branch) 49 are engaged regularly in the transportation of freight (46 main stem and 3 Washington branch) and 8 (6 main stem and 2 Washington branch), in that of passengers. The average number of tons excluding the weight of the cars, hauled one mile by the 49 freight engines of all classes will have been 631,130 for each, and expressing the number of those engines by that of their equivalent in the 4th or lightest class, we should have 93½ engines of this class, 90½ on the main stem and 3 on the Washington branch, and each of them would have drawn an average on both roads of 341,622 tons 1 mile. This tonnage includes materials and fuel distributed along the line for the company's use. Excluding that and considering only the freight which has earned revenue, the performance will have been 301,898 tons hauled 1 mile by the power of one 4th class engine. This power is equivalent to an average traction or adhesion, of about one ton; so that the relation between the effective weight of the engine and its years duty is thus readily seen. If all the engines now on the road had done a full years duty the number of tons hauled 1 mile, of freight earning revenue, would have increased 13 per ct. or to 341,472 tons.

Comparing these statements with those of the preceding year we find that the average duty of the engines has decreased 10 7-10 per cent. This is chiefly the result of the introduction upon the road of the additional power, by which the engines have been relieved of a portion of their duty,—a result which will be productive of real economy in their working.

Cost of Repairs of Locomotives

Main Stem.—The sum exhibiting the cost of the materials and labor put into the engines and tenders, in maintaining their current repairs, and rebuilding them with improvements when that was necessary or advisable, is $57,901 76; to which we add the cost of providing duplicate parts, for the engines, for future use, and kept in store for that purpose 1,242 37—which two amounts make an aggregate of 59,144 13. The actual current outlay during the year in maintaining the engines, is the first of the above amounts only. It is less than the corresponding amount for the previous year by 13,118 47. The average number of engines at work in 1847 was equivalent to 74 of the 4th class—and in 1848 to 84 of the same class. The increase in the number of engines has been consequently 13½ per cent.—The duty in tons and passengers carried one mile is also greater by 8 per cent. The decrease in the cost of repairs is, on the other hand, 18 per cent. The value to the improvements to the engines made during the past pear was about 9,300, including the cost of converting two of the 4th class 6 wheel engines into 8 wheel engines of the 3d class. The cost of these improvements is embraced in that of repairs, already stated. This remarkable reduction in the expense of maintenance is due chiefly to the improved condition of the old engines, and the introduction of so considerable proportion of new ones,—to the amended state of the road and other causes, which will promote a permanent economy in the department of machinery.

The cost of repairs per mile run, and per ton per mile drawn, has been nearly as follows for the several classes:

	Per mile run.	Per mile drawn.
1st class....	9·93 cents	·147 of a cent per ton.
2d class....	8·02 cents.	·178 of a cent per ton.
3d class....	5·50 cents.	·265 of a cent per ton.
4th class....	4·16 cents.	·233 of a cent per ton.
Gen. av.,	6·33 cents.	·188 of a cent per ton.

In this exhibit there is a uniform *decrease* in the cost per mile, from the 1st or heaviest to the 4th or slightest class,—while there is a nearly similar uniformity in the *increase* of cost per ton per mile—showing clearly the superior economy in this item, of the heavy engine for freight purposes.

Washington Branch.

The cost of current repairs of locomotives on this road for the year is 3,076 88 dollars; to which add for duplicate parts provided, as before. The first of these amounts, representing the actual cost of maintainance during the year, is 7,801 96 less than that of the previous year, being indeed less than one third of the latter. This great reduction is due to the greatly improved condition of the engines, and to the large increase of duty performed by them—being 25 per cent. in miles run, and 22½ in tons drawn.

The result per mile run, und per ton per mile drawn, is as follows:

	Per mile run.	Per mile drawn.
3d class:...	2·90 cents.	·955 of a cent per ton.
4th class...	2·14 cents.	·105 of a cent per ton.
Gen. av.,	2·47 cents.	·192 of a cent per ton.

The third class engines upon this road have run entirely with passengers, which are here expressed by their equivalent at 12 to the ton. The cost per ton is shown for the sake of conformity, and to show how much more costly, by weight, the conveyance of passengers is than than that of tonnage.

The cost per mile, and per ton per mile of the 4th class engines is very small, as they have been run chiefly with freight,—and they have been in consequence of the work done upon them last year, in remarkably good condition.

Average upon Both Roads.—This for all classes for the year has been 5·87 cents per mile run, and ·189 of a cent per ton per mile drawn. The corresponding result for the previous year was 10·14 cents per mile and ·3097 of a cent per ton per mile. The increase of miles run in the year just ended was 14½ per cent., and the cost per mile but little more than one half of that of the previous year, while the cost of the real duty performed was not more than two thirds of that of the same year. The comparison is evidence of improved economy in the working of the engines, and is due in part to the improved condition of the engines already on the road, and of the road itself, and in no small degree to the relief afforded to the working of the machines by the enlargement of the stock which has taken place during the year. This extension has operated well in several ways. When the engines have needed minor repairs they have been taken at once to the shop instead of being run until they would run no longer. The necessity of working upon them by night has been obviated, and this most imperfect and costly kind of work avoided. The engine man has also had more time to clean and keep his engine in order. The general condition of the machines being much improved, their power has been increased. Fewer irregularities in the running of the trains have taken place, and where spare engines were wanted to replace disabled ones, they were at hand. It requires indeed no argument to show that, in numerous particulars, economy in the operations of the road must have been promoted. During the year ending October 12, 1847, there was 90 per cent. of the motive power constantly on the road. In the year just closed the proportion was reduced to 82½ per cent. Upon the Reading railroad 80 per ct. of the power is usually on the road. On the Boston and Worcester railroad 75 per ct. has been kept in motion by dint of great exertions; on the Boston and Lowell railroad about the same; on the Georgia railroad from 62 to 75 per ct. I am of the opinion, indeed, that there should

be a spare engine to every two in constant use, or that only 67 per cent. of the whole power should be kept in motion. This ratio has been the basis of all the calculations of the cost of motive power which have emanated from this department. It is the proportion observed in the running of our passenger engines which wear so well, and which, after running two consecutive days, lie by upon the third for repairs. Want of capital may make it necessary to be content with a smaller investment in machinery than the adherance to this proportion would require. If so it is a necessity, a submission to which may be unavoidable, but which will be felt in the increased expense of working the road.

2. *Burden Cars.*—The appended tabular statement, letter F, exhibits the stock of burden cars now owned by the company. It will be seen to number 1,201 freight cars of all kinds, and which are in very good general condition. They are for use both upon the Main stem and Washington branch as required, their repairs being estimated separately for each road. The cost of maintaining this stock during the past year has been as follows:

Main Stem.	
Cars for general freight, .	$49,834 17
Cars for coal freight, . .	19,368 95
	69,203 42
Washington Branch.	
Cars for general freight, .	5,892 60
Total for both roads, . .	75,096 02

Comparing with the corresponding amounts expended in 1847, the increase is $20,314 45 for the Main stem, and the decrease, 3,687 52 for the Washington branch, a total increase of 16,626 93. The increase on the main stem is accounted for by the increase in the number and duty of the cars on that road, and of the improvements in the coal and other cars presently referred to. It will be seen by reference to table F, that there have been 80 burden cars entirely rebuilt this year.

The cost of repairs per ton per mile of burden cars for all kinds of tonnage including coal, and also distribution of materials and fuel for the company, has been upon the main stem ·233 of a cent in 1848 compared with ·180 of a cent in 1847, the difference against 1848 being due in a measure to the increase of duty performed, but chiefly to the expense involved in the addition made to the value of the stock of cars.

Upon the Washington branch the cost has been ·451 of a cent per ton of general freight per mile, and the general average upon both roads ·243 of a cent for all tonnage, including the company's materials and fuel and ·263 of a cent excluding them.

Coal cars have cost but ·158 of a cent per ton of coal carried per mile, although these cars have been much improved during the year by buffers, etc., at a cost which accounts for full one third of the entire expense due on this account, and which, if allowed for, will reduce the cost per ton per mile to ·105 of a cent.

3. *Passenger Cars.*—The establishment of these cars is shown in the table annexed and lettered G. They number in all 65 cars of all classes, of which 46 belong to the main steam and 19 to the Washington branch.

The cost of maintenance during the year has been thus:

Main stem, . . .	$24,038 13
Washington branch, . .	7,286 99
Total for both ends, . .	31,325 12

The decrease upon 1847 is $2,629 77 for the main stem, and 4,920 50 for the Washington branch. The difference is due to the smaller number of cars rebuilt this year, and allowances being made for it, the cost in 1848 will be ·191 of a cent, compared with ·210 of a cent in 1847—the average being for both roads.

4. *Stationary Machinery, Engine & Car Houses and Workshops belonging to the Machinery Department.*—The general condition of these buildings is good, if we except the engine houses near Harper's Ferry, which, being built with wood and much cramped in their size and position, have always been a source of trouble and expense, from which, happily, there is a prospect of being, in a measure relieved by the transfer of the central engine station to Martinsburg.

The cost of maintaining these buildings in repair should be divided between the engines and cars; but, as the amount is very small this year, being but $219 64, it is not so divided, but is transferred to the road department, under head of "depots."

Summary of Cost of Maintenance of Machinery.—The whole expense of maintaining the locomotives, passenger and burden cars during the year ending September 30, 1848, has been upon the Main stem, under the several heads as above stated, $151,143 31
which is 4,566 21 greater than the preceding year.
Washington branch, . . 16,256 47
which is 16,683 12 less than the preceding year.
Total for both roads, 167,399 88
To which, in order to show agreement with the Treasurer's account, must be added the am't charged to "machine shop" and "foundry," disbursed within the year, but not worked up and put into the machinery, but now on hand as "material" for future use (but not apportioned among engines and cars) 16,605 06
Total as stated in treasurer's account, ... 184,004 84

Improvement of the Machinery.

1. *Locomotives.*—The stock of engines has been increased during the year by the addition of 3 of the first class built by contract, 1 purchased, and 1 constructed in the company's shop at Mount Clare; 2 of the second class purchased, and 1 of the third class also purchased. Five also of the first class have been contracted for; none of these are yet delivered, but are to be furnished during the coming winter. All of these engines, excepting the last five not yet delivered, appear in the table E of the appendix, with the maker's name and other particulars.

Their total cost was . .	65,550 00
And the cost of the 5 to be yet delivered will be. . .	46,750 00
Making an aggregate of .	112,300 00

These engines are all at work successfully upon the road. Of the 5 first class, the three built by contract, and the one in the company's shop, were constructed under a carefully framed specification having for its object the production of a machine of a weight less than the heaviest then upon the road, and yet possessing the properties wanted to adapt it best to the peculiar charisteristics and requirements of the road. Thus far the machines work well and promise well for the future, although further experience is necessary to test their economy compared with that of the heavier engines which preceded them. Besides these new machines, several of those already on the road have been much improved; 2 six wheel engines have been converted into eight wheeled with 25 per cent. increase of their power, and their action on the road made much less injurious.

2. *Burden Cars.*—The addition to the stock of these cars during the last year has been, 50 house cars—26 stock, partitioned—30 gondolas for carrying hogs and sheep—37 ordinary gondolas—12 platform cars, for carrying iron, and 10 for transporting stone, and 6 lumber cars. All of these 171 cars are eight-wheeled, and have cost 74,998

Besides these new cars furnished from abroad, there have been 80 worn out care rebuilt in the company's shop with improvement of model, and provided with spring buffers. The 201 iron coal cars of the company have also had buffers attached to them and strengthened in other ways, so as to make them much more durable and valuable than at the beginning of the year.

3, *Passenger Cars.*—2 baggage, 2 mail cars, and 12 excursion cars have been built by contract at a cost of . . 20,600
There have been also contracted for and to be delivered during the ensuing winter, 12 passenger cars, cost 21,450
Making the entire outlay on this acct. 42,050

4. *Stationary Machinery, Engine House, Workshops &c.*—A new engine house to hold 11 engines with their tenders or 22 engines alone, with a suitable workshop attached, is being built at Martinsburg and will be ready for occupation by winter. It is substantially built of stone and brick, with an iron sheathed roof. This improvement will be a highly valuable one, permitting the long contemplated change from the confined and unhealthy station one mile below Harper's Ferry to a position in every way more desirable. A small stationary engine has been provided for this station or that of Cumberland, as it may appear to be soonest required at one or the other. The new engine house at Mt. Clare, which has been in use now for the last year, has given great accommodation, but such has been the increase of the business and motive power of the company that additional shelter for engines will be required, and so also for passenger cars.

To be Continued.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

JAMES HERRON, *Civil Engineer,*
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.

MODELS of this Track, on the most improved plans, may be seen at the Engineer's Office of the New York and Erie Railroad.

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.
☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS,
1y48

TO CONTRACTORS.

OFFICE NASHVILLE & CHATTANOOGA R.R. Co.
Nashville, 9th November, 1848.

PROPOSALS WILL BE RECEIVED AT this office on 20th December next, for the Graduation and Masonry of forty miles of road, viz: twenty miles next to Nashville, ten miles crossing the Barran fork of Duck river in Bedford county, Tennessee, and ten miles on the northwest side of Tennesee river, in Jackson county, Alabama.

Profiles and plans may be seen at this office after 12th December. By order of the board.
C. F. M. GARNETT,
Chief Engineer.

N. B. Twenty-five miles of road (including the Tunnel,) and six miles heavy mountain work are under contract. Seven Hundred Laborers are wanted by the Contractors. 5t*48

☞ **NOTICE.** ☜
RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.
1848.—SCHEDULE FOR RUNNING.—1848.

Going west.	1st train.	2d train.	3d train
Leaves....Albany	7½ A.M.	2 P.M.	7 P.M.
Pass.....Utica	1 P.M.	7½ P.M.	1½ A.M.
Pass.....Syracuse	4½ P.M.	11 P.M.	5 A.M.
Pass.....Auburn	6½ P.M.	1 A.M.	7 A.M.
Pass.....Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at. Buffalo	5½ A.M.	12 M.	6 P.M.
Going east.	**1st train.**	**2d train.**	**3d train.**
Leaves....Buffalo	7½ A.M.	2 P.M.	7 P.M.
Pass.....Rochester.	12½ M.	7 P.M.	12 M.N.
Pass.....Auburn	6½ P.M.	1 A.M.	6 A.M.
Pass.....Syracuse	8½ P.M.	3½ A.M.	8 A.M.
Pass.....Utica	12 M.N.	7 A.M.	11½ A.M.
Arrives at. Albany	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of
RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES
Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1v

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

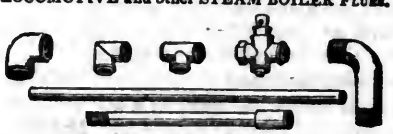
It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.
WELDED WROUGHT IRON TUBES
From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.
☞ Orders for the above will be received and promptly attended to at this office. 32 1y

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address
JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by
IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

JAMES LAURIE, *Civil Engineer.*
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.
October 14, 1848. 6m*

RAILROAD IRON.

THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to
COOPER & HEWITT, Agents,
17 Burling Slip, New York.
October 30th, 1848.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—1y.

DIRECT ACTION ENGINES

FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,

AND ALSO

THE ANNULAR RING PISTON ENGINES, of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,

CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--

BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 3w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,

New York and Erie Railroad;
and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

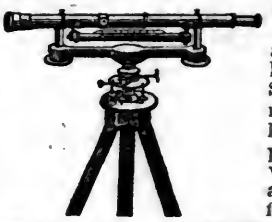
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

RAILROAD IRON.

THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.
New York, October 25, 1848. tf

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic. Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 11tf

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1v

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1v1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.




This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8¼ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the


Trains will run as follows:


Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m. and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD

CO.—Summer Arrangement.—On and after


Tuesday, June 1st, 1847, the cars

will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

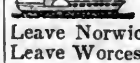
Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

NORWICH AND WORCESTER RAILRoad. Winter Arrangement.—1848.


Accommodation Trains

daily, (Sundays excepted.) Leave Norwich, at 6 a. m., 12 m. and 2½ p. m. Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

BOSTON AND MAINE RAILROAD.

Winter Arrangement.


Commencing Nov. 13, 1848.


Trains leave Boston as follows, viz: For Portland at 7 A.M. and 2½ P.M.

Great Falls at 7 a.m., 2½ and 3½ p.m.

Haverhill at 7 and 11½ a.m., 2½, 3½ and 5 p.m.

Lawrence, at 7, 9, 11½ a.m., 2½, 3½, 5, 6 p.m.

Reading 7, 9 & 11½ a.m., 2½, 3½, 5, 6, 7½ & 10 p.m

Trains leave for Boston as follows, viz: From Portland at 7½ a.m., and 3 p.m.

Great Falls at 6½ and 9½ a.m., and 4½ p.m.

Haverhill at 7, 8½ and 11 a.m., 3 and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6½, 7, 7½, 9½, 11½ a.m., 1½, 3½, 7½, 9, p.m.

MEDFORD BRANCH TRAINS.

From Medford at 6½, 8, 10½, a.m., 2, 4, 6, 9 p.m.

From Boston at 7½, 9½ a.m., 12½ 2½, 5½, 6½, 10 p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Super't.*

Boston, Nov. 7, 1848.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6¼ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1¼ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7¼ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NEW YORK & PHILADELPHIA.

NEW JERSEY RAILROAD & TRANSPORTATION CO.—

6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11¼ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

t25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad ..... 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon		$1 00
"	"	" Xenia	1 50
"	"	" Springfield	2 00
"	"	" Columbus	4 00
"	"	" Sandusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for oaggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freigat paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning

G. M. KNEVITT, Agent,
78 Broad St., New York.

September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS EOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.



RIDER'S PATENT IRON BRIDGE.

THE RIDER IRON BRIDGE having now been fully tested on the Harlem Railroad, by constant use for about eighteen months, and found to answer the full expectations of its most sanguine friends, is now offered to the public with the utmost confidence as to its great utility over any other Bridge now known.

The plan of this Bridge is to use the iron so as to obtain its greatest longitudinal strength, and at the same time is so arranged as to secure the combined principles of the *Arch*, *Suspension* and *Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

THE RIDER IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Rail Road or other purposes, made under the above Patent, at short notice, and at prices far *more economical* than the best wood structure, and on *certain conditions*, the first cost may be made the same as wood.

Models, and pamphlets giving full descriptions of the RIDER BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, **74** BROADWAY, *up stairs*, or of W. RIDER & BROTHERS, **58** *Liberty Street*, where terms of contract will be made known, and where orders are solicited.

M. M. WHITE,
Agent for the Company.

November 25, 1848.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM **1 1-2** TO **8** INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
ly10 near Third, Philadelphia.

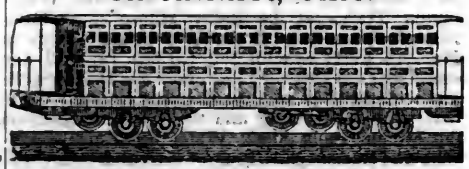
RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
Philadelphia, Pa.
ly25

CAR MANUFACTORY,
CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, October 2, 1848. 41tf

RAILROAD IRON.

THE MOUNT SAVAGE IRON WORKS, Allegheny County, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron.—Communications addressed to either of the subscribers will have prompt attention.

J. F. WINSLOW, President
Mount Savage Iron Co., Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.

November 6, 1848.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 52] SATURDAY, DECEMBER 23, 1848. [WHOLE No. 663, VOL. XXI.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, December, 23, 1848.

CHANGE OF LOCATION.

After the first day of January, 1849, the RAILROAD JOURNAL will be published, as formerly, in the city of NEW YORK—it is therefore desired that all *letters*, *communications* and *exchange papers*, designed for the editor, should, from and after the issuing of this number, be sent to him there.

☞ Will those editors who have favored us with an "*exchange*," please direct their papers hereafter to NEW YORK? and *also oblige* us by saying in their papers that the Journal will be hereafter published in that city?

MISSING NUMBERS OF THE JOURNAL.

As the *current* volume of the Railroad Journal is *now* completed, and as it *will not long* be in *my power* to furnish *missing* numbers to its subscribers —*some* of whom have kindly accompanied me thro' a long journey of *eighteen years*—through good report and through evil report—I am *desirous* to furnish *all* who wish to *complete* their volumes, with missing numbers, if they are now on hand. *Every* subscriber, desirous to obtain missing numbers, should make out a list, and forward it *immediately* after the close of the volume, which will be with the *present* number, or December 23d. The Titlepage and Index will be forwarded with the next number.

D. K. MINOR,
Editor Railroad Journal.

Railroad Reports Omitted.

We have endeavored to keep pace with the numerous railroad reports, received during this year, but it has been *impossible*—and therefore several useful and interesting ones, which we marked for publication, have been omitted, much against our desire—our friends must therefore excuse the omission, ake the will for the deed, and hope better things.

Panama Railroad.

There appears to be a clashing of interests, between two parties, claiming the grant to make this important work. We have heard statements in relation to one of the parties, sustaining a high position in the mercantile community, which we can hardly credit, and therefore forbear—for the present —to allude to them, but if, on inquiry, we find them true, we shall not hesitate to speak of them as we feel they deserve. We shall refer again to the subject in our next, or at an early date.

Camden and Amboy Railroad Company.

Can any one inform us when the report of the committee of *examination* is to be given to the public? We have, in courtesy, refrained from alluding to the subject during the investigation; and, as we understood, when the committee was appointed, that the report would be made in a few weeks, we are desirous to soe it. Will some of the initiated inform us? We would also like to know whether that suit for overcharges at Trenton has been "*settled*?"

Railroads at the Close of 1848.

It cannot be otherwise than gratifying, in an eminent degree, to those who were the early advocates of railroads, to contimplate their extraordinary influences, not only upon this country, but also upon the world.

It is now *only* twenty-three years since a combined effort was made in England to construct a railway for transportation and travel between Liverpool and Manchester. During that period we have been an attentive observer of the rise, progress, and astonishing influences of railroads.

Few events, that have occurred, show more clearly the character of the *American* people, than the commencement of the Liverpool and Manchester railroad. The idea was caught up, hastily considered, and at once adopted in nearly all the commercial cities of the Union, as well as by many of those in the interior. It may not be an easy matter to decide to which of the Atlantic cities belongs the credit of making the first earnest and continued movement in favor of the construction of a railroad; but certainly, among the earliest, Baltimore and Charleston will stand out prominently—and Boston, New-York and Philadelphia were not far behind, in their movements; but Boston, the smallest of the three, has been more wise, or at least more fortunate and successful, than either of her sisters; and now enjoys railway advantages *by far* superior to any city in the world, except London. But the knowledge of their advantages soon became familiar to all who read of, or travelled upon them, and could judge by comparison—and the impulse was given in almost every State of the Union, which caused greater efforts and greater outlays of capital, to secure their benefits, than was ever before made by our people, save during that period, when our *fathers* fought for liberty, and independence; yet, notwithstanding all this, there are few men who can justly estimate, and appreciate, the *benefits*, the *comforts*, and the *influences*, which they have already given to man. Though first used in England, and adopted next by us, the system is by no means now confined to those regions where the English language is spoken—but it is extended throughout Europe, even into the heart of Russia, and also to India! and it may be safely estimated that the entire expenditure, within the last twenty-five years, in the projection and construction of railroads, will not fall short of *one thousand millions of dollars!!* and, enormous as the amount is, we do not hesitate to believe that their influences in facilitating business, in reducing the expense, and *time*, of travel, and in opening up new regions of country, has given an *increased* value to property of *twice* that amount!!! and yet their influences are only just *beginning* to be felt—the system is not yet *organised*—as there is no *concert* of action—but rather an *antagonism* of action, in consequence of the many local interests, and prejudices, existing. Time, however, and the extension of the numerous enterprises, undertaken by local interest, will correct this; and the time will come when all our great thoroughfares, from the Atlantic cities to the extremes of every part of our country—*even to the shores of the Pacific ocean*—will be by railroad; and these main lines will be intersected by thousands of connecting, and branch railroads—and *plank* roads, which are certainly as nearly related to them as "*first cousins*," and will be widely introduced in all parts of the country where timber is plenty.

With a vivid recollection of the rise, progress, depression, resuscitation and present condition of the railroad system in this country; and having devoted much of our time, during the past *eighteen* years, to the collection and dissemination of information, useful to the cause, we cannot but feel great pleasure —nor omit the expression of these gratified feelings— in the present advanced condition, and bright prospects of a far more rapid progress of the railroad system in this country.

We might, *in six lines* across the page, enumerate all the railroads *commenced* in the United States, upon which *cars* were in use, at the time when the first number of this Journal was printed, viz: in *December*, 1831! Now it would require nearly *six pages!!* and even then it would only allow of the name, termini, length, and cost to be inserted: such has been the extraordinary progress of the system in *eighteen* years.

We might, with great satisfaction, if time and space would admit, in this closing number of the volume, advert to our course, and our efforts in favor of all the great lines of railroad extending from the Atlantic cities towards the interior, as well as in relation to those designed to connect with them, and thus unite intermediate with extreme points; but, as we have neither time now, nor space to devote to the subject—nor indeed inclination to claim merit for anything we may have done, to promote the cause, to which we have devoted so much time and labor, and which appeared to us, after the experiments made in October, 1829, upon the *Liverpool and Manchester* railway, as the *true* and *only efficient* system of uniting all parts of our wide spread country, and thus keeping us one nation and one government—we will only ask our readers—and we wish they were *thousands* where they are now *individuals*—to look carefully at the past—look at the wonderful progress and advantages of railroads, while thus in their *infancy;* while every branch of the business, in construction, and management, is only *partially* understood, even by the most experienced among our many able managers—and then cast a prophetic glance into the future, only for a *quarter* of a century, to the year 1874, and imagine what will then be the extent, the condition, and the influences of the railroad system in this country! Who, that reasons accurately from the past to the future, can contemplate the change that will be effected, the improvements that will be made, our relative advance in population, improvements and wealth, as compared with other nations, without a thrill of pleasure—without a sensation almost akin to amazement and awe?

If such pleasing reflections arise in the mind of him who contemplates the present, and, from the past anticipates the future, may not those be content with their course, who, at its birth, or in its *early* infancy, looked upon it, spoke of it, and labored for it, through years of depression as the surest and most certain means of promoting the intelligence, happiness, wealth and power of their native land? Such, at least, are our feelings on the subject; and, notwithstanding the remarks, and the *truth* of the predictions, of some of our best friends, *eighteen years ago*, when we proposed to commence the publication of a *Railroad Journal*—in the hope of promoting the cause of railroads in the United States—and notwithstanding we have never owned a single share of railroad stock, nor an acre of land to be benefitted by the construction of a railroad; we feel great pleasure in having devoted our efforts to a cause from which so much good must flow to mankind—*to our own country in particular* even though we have not derived from our labors on the Journal the means of a comfortable support for a *small* family—nor even, though we may now find it necessary or expedient to turn our attention to other pursuits, in the hope of being able to deal justly by *all* who have claims on us.

Yet the Journal will be continued, and, we hope, in more able and efficient hands—more *willing* they cannot be—with increased usefulness to the railway interest.

It is hardly necessary to say that, in the future, as in the past, our best efforts will be given to advance a cause so useful to mankind, and in which we have been so long engaged; nor that the *Railroad Journal* will be, while it is devoted—in our own spirit—to the cause, the medium of our communications on the subject.

Railroads in the United States.

In the first number of the current volume, for the year 1848, we published a map of the *United States*, including *Oregon*, *California*, and *part* of Mexico, together with another map showing *Europe*, *America* and *Asia*, by way of illustrating the great advantages, to the United States, of Mr. WHITNEY'S proposed railroad to the *Pacific*, which have been found very useful to many in investigating that gigantic enterprise: and we now propose to publish in the first number of the ensuing volume, for 1849, a map of the United States, as they were before they crossed the Rocky Mountains, upon which are indicated *nearly* all the railroads constructed, in course of *construction*, and in *contemplation*, for the purpose of illustrating the importance of one of the proposed great lines between *tide water and the western rivers*.

This map will be accompanied by an able and well written article, pointing out the importance, to a neighboring State, of the united and *harmonious* action, of its various interests, in aid of the several works now under consideration—if they would secure to themselves what seems legitimately to belong to them; and the number of the Journal containing the article, and map, will be one of more than ordinary interest.

Light Engines and Carriages on Railways,

We received an interesting communication on this subject, in April last, from a gentleman in Virginia, giving some rational and well-sustained views on this subject—but as he intends to secure patents for his plan, we are not at liberty to publish them at present. We will however give, in an early number, a description, with a engraving, of an engine and car *combined*, of dimensions equal to 40 or 50 passengers, weighing not over 10 or 12 tons, which may interest some of our readers.

Plank Roads in New Jersey.

We have heard that an effort is to be made in New Jersey to get a charter for *a* plank road. Why not obtain a *general law* for plank roads? Such a law can be got as well as for a single road, and then it will serve the whole state. It is a very important matter to the people of New Jersey—and we hope they will look to it, and all work together.

The New York legislature passed such a law, and now plank roads are becoming very common, and no one that has not tried them can appreciate them.

We will try and get a copy of the New York law and if it is not too lengthy, we will give it a place in the Journal.

Western and Atlantic, or Georgia State Railroad.

We need not tell our readers that this road is the continuation of the "Georgia Railroad," from Atlanta to Chattanooga, on the Tennessee river, where it will connect with the Nashville and Chattanooga road, now in course of construction—thus opening a railroad communication from Charleston and Savannah, of about 600 miles.

It is indeed gratifying to learn, as each year comes round, that in every part of the country the people are showing by their *acts*, that they appreciate the value of railroads, and also that they are able to construct them. The editor of the Augusta Chronicle says of the report of the chief engineer of the Western and Atlantic railroad for 1848.

"The Federal Union contains the report of the officer above named, from which we condense the following:—The engineer has put under contract the embankment of the ravines at Noonday and Proctor's creeks in lieu of re-building the bridges there; and proposes to press this policy in reference to all present bridges as far as practicable, with all the urgency the funds of the road will warrant, having due regard to economy as to the time of substituting banks for bridges. In this way the bridging, which now measures 7,361 feet, may be gradually reduced to 2,500 feet, and probably to less. The expenses of embanking Noonday and Proctor are to be paid out of the profits of the road. New cars and locomotives have been purchased, and the road is expected to be in better order for business in the coming year, than ever before.

"During the year, the Nashville and Chattanooga railroad company has been fully organised, its stock freely taken up, and a portion of the road located, and put under contract. It is to connect with the Western and Atlantic railroad at Chattanooga, and is destined to make our great state work a most valuable property.

"The Memphis branch railroad from Kingston to Rome, is nearly completed: and it will be opened for business by the ensuing December, by which time, a new steamboat is to be put upon the river; so that we may expect henceforth to realise an increasing business from the valley of the Coosa, and ten or eleven counties, and parts of counties in Alabama.

"The Etowah mills and others erected, or in process of erection, for the manufacture of flour, are stimulating the production of wheat to an unprecedented extent; and our Georgia brands are already esteemed among the best in the market. Wheat and flour are to be important articles of transportation on this road.

"The watering places along our line of road, and convenient to the same, are becoming very popular, and they may be expected to attract large crowds every summer, and thus contribute to swell the income of the road.

"Exhibit C, shows a debt now chargeable to the road not bonded of $30,455 25; and a cash balance in the treasury of 20,058 35.

"Exhibit E, shows the receipts and disbursements of the road, from the first day of January, 1846, and manifests a gradual and steady increase in its business.

"All subordinate superintendents and agents having the transportation and other interests, are spoken of in terms of commendation. Among the several tables, the following we regard as of the most general interest.

Current Expenses of the Western and Atlantic Railroad for the year ending Sept. 30, 1848.

Cash paid out by treasurer		$62,022 91
Amount of shopwork done by Geo. railroad and banking company, and carrent from Sept. 30, 1847, to Sept 30th, 1848		14,899 51
		76,922 42
Deduct amount paid on expenses of previous year	4,298 67	
Deduct amount paid for stringers crossties and engine wood now on hand	2,969 00	
Deduct amount paid for engine and car wheels, spikes, iron, shovels, saws, provisions and		

clothing for negroes, etc	2,151 00	
		9,418 67
Actual expenses		67,503 75
Profits		48,081 55
Income		115,585 30

Statement of the moneys of the Western and Atlantic railroad, received and paid out by E. R. Mills, treasurer, from Sept. 30, 1847, to Sept. 30th, 1848.

Receipts.

Balance on hand Sept. 30, 1847		3,190 15
From freights	137,384 68	
passengers	37,311 16	
mail service	8,692 27	
miscellaneous sources	691 48	
		184,079 59
		187,269 74

DISBURSEMENTS.

Conducting Transportation.

Stationery and printing, loss and damage, stock killed by trains, board of hands, hire of negroes, provisions and clothing for same, wages of laborers and watchmen, agents, clerks and conductors, and bridge watchmen, repairs to depot buildings, incidentals	16,831 79

Motive Power.

Engineers, firemen and repairs of engines, water stations, wood for locomotives, oil and tallow for engines, hire of negroes, provisions, clothing, etc., for same, incidentals	14,787 83

Maintenance of Way.

Wages of supervisors, and men, hire of negroes, provisions, clothing, etc., of negroes, tools, iron, spikes, stringers, cross ties, repairs of bridges and culverts, incidentals	28,617 20

Maintenance of Cars.

Oil and tallow for cars, repair of cars, rent of M. and W. railroad cars since 30th Dec., 1847	1,503 35

Rent of Cars.

Rent of M. & W. railroad cars up to the 30th December, 1847	282 74
	62,022 91

Louisa (Va.) Railroad Extension.

We alluded, in our last, to the proposed extension of this road to Richmond. We find the following sensible and timely remarks of the governor in his late message. Without meaning to call in question the ability, or intentions, of those in the management of this work, we must believe that they are on the wrong tack, when they bear *south*-westerly, instead of *north*-westerly. Were we advocating the cause of the road *as it is*, and of *Richmond*, we should urge its continuation in the direction of Harrisonburg, and to an intersection, at the most suitable point, with the Baltimore and Ohio road, or through the mountains by a northern route to the Ohio, as such a road only can, in our opinion, secure to Richmond any share of the business of northwestern Virginia. We may be all wrong in our views—but they are at all events uninfluenced by personal, or selfish motives. We are assuredly in good company, when in the same boat with his excellency the governor, who says,

"It has long been a cherished object with me, to extend the Louisa railroad to the Ohio river, and as far as practicable, in a northwesternly direction. When in the senate, I pressed this policy, which also received the sanction of the general assembly. The president of this company, when a member of the senate, and in his present official character, also actively co-operated in securing the success of this policy. I shall ever regret, as a great public calamity, that this gentleman, and the private stockholders of this company, should have changed their views, and against the opinion of the board of public works, should have turned their road in a different direction, under the authority of an act which it is positively certain, would never have been passed, had the construction that was put up on it been anticipated.

"At your last session an act was passed, providing for the extension of this road on the route originally designed, and authorising a subscription on the part of the state. But the wish of the state, as indicated by said act, and the vote of the state proxy, representing a majority of the stock, aided by a portion of the private stock, in consequence of the scale of voting now adopted by law, was overruled by a majority of the stock in said company, and the act rejected; thus under the influence of private interests, defeating a long cherished and most important public policy. Are you prepared, gentlemen, to permit this important measure to be defeated? Are you willing to abandon, to foster and enrich an adjoining state, one fourth of our own? Or will you not persevere with this improvement until it shall reach the shores of the Ohio, and make a noble unity of our beloved commonwealth?

"The Louisa railroad will, when completed in the direction it has taken, to the extent of its present means, destroy two improvements as dividend paying subjects, which now handsomely contribute to the treasury, and if extended westwardly, as is contemplated by its managers, will invade the chartered rights of the James river and Kanawha Co., and render hopelessly unproductive our immense interests in that company, amounting to 6,603,229 69, and that too, without securing any local advantages which would not have been realised to an equal extent upon the abandoned route. This company is also actively making arrangements for the extension of their road to this city, substantially parallel to the one now in operation, and which will pay a dividend of seven per cent. to the State. It is manifest that if this scheme is carried out, it must affect injuriously the income of the Richmond and Potomac railroad company, in which the state is interested as a stockholder to the amount of $275,200; a consequence which the state ought not to encourage. Are private interests in our public works not entitled to protection? Are our own, immense as they are, not worth preservation? Every citizen is deeply interested in these questions, and in giving success to the works in which we engage. Success will effectually prevent an increase of public burdens, and success will give to the system of internal improvements an argument in favor of its extension, which no probable combination of circumstances can resist.

Had the Louisa company adhered to its original route, it would not have provoked a single enmity, nor interfered with an important public interest. It would have quietly wended its way, every step of its progress marked by benefits, and when it should have accomplished its high destiny in the completion of this noble enterprise, its patrons and managers might justly have claimed to be regarded as public benefactors. Nor is there anything in the topography of this route to justify its abandonment. Although criticised for the expression of this opinion in my former message, I repeat it with increased confidence. The Baltimore and Ohio railroad is prosecuting its surveys through a country equally rugged, and has already ascertained that a grade can be obtained, nowhere exceeding 79½ feet to the mile; and its gifted engineer, Mr. Latrobe, by the following extract from a letter recently written by him, prefers, under the circumstances, and will probably adopt, a grade of 116 feet to the mile. 'You are aware,' he says, 'that the subject of grades is a mooted one, and some engineers are bolder in their views than are others. The highest grade heretofore used upon any leading line of road is about 84 ft. per mile. But this is certainly much within the capacity of the locomotive as now improved, and in crossing the Alleghany west of Cumberland, I think it more than probable that a grade of upwards of 100 feet—say 116 feet—may be adopted. The line will be so much shortened and cheapened by it, that I feel sure it will more than pay for any additional expense and risk of working such a grade. Above Cumberland, one of the coal railroads, we have a grade of 35 feet per mile safely worked, with the heaviest trains, by engines of 23 tons. I think the locomotive will be still farther improved for operating on high grades, so that I entertain no doubt whatever of the entire feasibility of the grade above mentioned [116 feet] on a line of general business.' I have therefore again with profound solicitude, to recommend this subject to your favorable attention."

We agree also fully with the views of the governor in relation to the scale of voting on railroad and other shares. We see no reason why the man who is willing to contribute $10,000 to the construction of a work which will benefit others by its influences much more than it can him—even if he gets 10 per cent. from the start—should not have the same influence, and control, as *one hundred* men who contribute the same amount. He would only receive his dividends at the same rate as the others, together with *his share* of the benefit resulting from a *general influence* upon all property along the line, and his economy in travelling, while the hundred men, owning only *one* share each, would also each receive their dividends, together with their respective shares of benefit from the *general influence* upon property, and each of them would receive, when travelling, the same advantage from the economy of *money* and TIME. Of course the actual *aggregate* advantage to the hundred men would be many, probably *ten*, or *twenty*, times as great as to the one man, though he had actually contributed as much to the work as *all* of them together. We therefore must agree fully with Gov. Smith that the present mode of voting "*is unjust*," and should be changed. That the matter may be better understood, we give the following extract from his message. He says:

"The scale of voting in our internal improvement companies is, it seems to me, unjust, and ought to be repealed. As the law now stands, the man who owns 100 shares of stock is entitled to but 19 votes, and 100 men owning a share each are entitled to 100

votes. In the one case the owner of the 100 shares has a sufficient interest to secure his attention to the affairs of his company, but in the other the 100 men possessing each an interest too inconsiderable to repay the trouble of attention, make a proxy of some interested person; and thus practically ends their interest in the affairs of the company. Can such a state of things be right or politic? I ask attention to the following statement:

Statement of the State vote and Private vote that can be given at the meeting of the Stockholders in three of the principal rail road companies.

	Total vote given by the state.	Am't represented by state vote.	Total number of votes that can be given by private stock.	Am't represented by private stock.	No. of private stockholders.
Louisa road.	569	$306,400	1,736	$304,200	727
R. & P. road.	594	3[illegible]5,600	908	300,000	132
R. & D. road.	701	691,500	2,648	241,700	910

"Comment on this distribution of power is useless. It will be seen that the interests of the state are at the pleasure of private interests, which being wrong in itself, will, I hope, be corrected in every instance, at the first practicable moment."

* * "In a former message, I pointed out, with all the power of which I was capable, the destructive effects of railroad competition. I stated the wide ruin which had been wrought by it in England, and the remedy that had been adopted to arrest it. I called attention to our own experience, particularly that which was furnished by the struggle between the late Portsmouth and Roanoke railroad and the Petersburg and Roanoke railroad; which resulted in the destruction of the former, while the latter barely escaped a similar fate, but which being now relieved from the struggle, is eminently prosperous. Competition for the mighty trade of the west is fully justifiable, and is a high and solemn duty in which we cannot fail of success. But competition among ourselves for the limited supplies of our own exhausted fields by the construction of rival works, cannot be vindicated by practical wisdom, and will, I trust, henceforth receive no favor from the general assembly.

"I have dwelt longer upon this subject than I would have done, but for my conviction that the fate of internal improvements in Virginia is involved in it. Capitalists will not risk their money amid the war of rival routes, and the people will not bear burdens, continually increasing, without some prospect in the distance of prosperity and relief.

"My views in relation to the character of the improvement, and the point at which it should commence between James river and the Tennessee line, have been heretofore so fully expressed that it may be considered presumptuous to urge them again upon your attention, especially as a different improvement was adopted and is now in progress of construction. But I am so fully satisfied that a turnpike can answer no important public end that I hope to be excused for recommending that the further prosecution of this work south of Salem be abandoned, and the money appropriated for it applied in aid of the Lynchburg and Tennessee railroad, in which I hope to see the State become a leading partner.—By this means, the true policy of the state, according to the views I have heretofore expressed and still entertain, can be substantially accomplished, and the great advantages I have formerly depicted, and so anxiously covet for our state, be secured. I understand that a railroad from the Hiwassie to Knoxville in Tennessee, has been recently put under contract, and our enterprising sister will be on our borders ready to greet us before we can be prepared, with our utmost diligence, to give her an appropriate welcome. It is wonderful that in this enlightened day, with stores of experience around us, we should have attempted to develope an important section of our state, and connect distant and inland points by a turnpike! I doubt if there is in the world a similar work under construction for similar purposes."

The remarks of the governor in relation to the "*destructive effects of railroad competition*," apply with great force to the proposed extension of the "Louisa road to Richmond"—and they should have their full influence on that subject.

We are sorry not to find any allusion in the message of his excellency to that noble project, which, a few years ago, occupied the attention of so many of the able men of Virginia; a work without a *parallel*, in its certain advantages to the state *as a whole*—the *Richmond and Ohio railroad.*

This work would be to Virginia what the New York. It would receive trade from *thousands of miles of river* navigation, as the Erie road will from the lakes. It is the shortest route to tide water, and its grade would not exceed those on the Erie, or other long roads crossing mountainous ranges; and we again urge upon the people of Virginia the importance of the early construction of this work—whatever other lines may be constructed in other directions.

We are not surprised that the governor should recommend the discontinuance of a "*turnpike*" as a medium of connection between the public works of Virginia and Tennessee. Nothing short of a railroad can ever draw trade and travel from below *Abingdon*, when the railroad from Knoxville shall be completed to the Georgia state road; therefore we trust the governor's recommendation to aid the Lynchburgh and Tennessee railroad will find favor. We do not, however, abate a particle of our conviction that the Richmond and Ohio railroad should be immediately undertaken, because we would have the state aid the road to Knoxville. Both should be built at once, and the Danville road also, and then the "Old Dominion" would flourish and blossom like the rose, and again assume her position in the Union, as *then her rich resources* would be developed and appreciated: *again*, therefore, do we urge on this noble work.

Light Engines and Light Trains.

Some of our readers may recollect that we some time since—see No. 42, Oct. 14—published an article on this subject from the Civil Engineer and Architect's Journal. We now find an able article in the London "Circular to Bankers," of 10th November, condemning the proposed "amalgamation" o the three powerful railway companies, in which the subject named at the head of this is referred to, and Mr. Adam's light locomotive and car united is spoken of. We give the following extract for the double purpose of showing that there is a growing disposition to arrest the present tendency to increase the weight of locomotives and speed of trains, and also to show the rapidity with which an interchange of views now takes place between the old and the new world—an article published by us on the 14th of October, re-published in London, and returned to us here by the 6th of December. In 1831, or about the period when we established this Journal, *forty-five* days was a common *late* fall passage *from* London for our best merchant ships. Now the *round trip*, and a *fortnight* in London, may be done in the same time! What time will be required twenty years hence? We will not predict, as we should be likely to ask more than will be necessary. The writer says:

The fact is, we believe that this policy is all wrong, as experience will soon make manifest; but then it reveals that disposition and habit of mind which almost invariably leads to serious mischief, and if not vigorously counteracted, to ultimate failure in all great enterprises. It shows a headlong and impulsive temper, which disdains cautious circumspection, patient investigation, and deliberate judgment. It is the real source of the Rugby and Stamford, the Rugby and Leamington branch railways, and all such projects. Instead of enormous engines tearing the rails to shivers, disturbing the solid structure, and crushes whatever chances to intercept its progress or throw it off the balance, the true practice will be found to be, light engines, light carriages, and small trains. The cost of an additional engineman or two (if such should be required is as nothing compared with the loss from the cost of the ponderous power, the distruction of stock, of life, and of other men's property which must inevitably result from its use. Instead of a long train of heavy carriages, fitted for two hundred passengers, when the average number it may carry may be under sixty, have a short train of light carriages, fitted to carry one hundred and fifty passengers. This is precisely the contrary policy to that of the great railway companies, and experience will show it to be the true policy for them, if they wish to preserve the value, or permanently any value for their property. And with regard to unformed or unexpected branch lines for which parliamentary power has been acquired, and where a change of practice would not involve the necessity of setting aside a costly stock, there can be no doubt of the matter, as we will now proceed to prove.

We have seen a railway carriage which was constructed at the Fairfield Works, Bow, by Mr. Adams, capable of holding, conveniently and comfortably, forty-eight passengers, with an engine, coke wheel, and water-tank attached to it as one carriage; and this thing complete, that is to say, the passenger-carriage, the engine, the coke-hole, and tank, weighs, when fully equipped for its journey with fuel and water, and all things but the load of passengers, no more than nine tons; or less than one-fourth of the engine alone which is used on the Great Western, and we believe, also some of those on the North

Western. This "complete set out," is capable of travelling with its load at the rate of twenty-five miles an hour with no greater loss of time for replenishment of the requisite materials than is now spent on the great engines and great trains of the present system. Add a little to the weight and power of the engine and you have three or four passenger-carriages capable of conveying 144 or 192 people in the place of eight or ten costly and ponderous carriages, which would not on the average carry nearly so large a number of persons on the present system. In the supplement will be found an article on this subject, taken from an American statistical or railway journal, and we take it from that quarter, though it relates to matters passing in England, for the opportunity it affords us of saying that if we are such fools as to be led into wrong courses by men who cunningly push themselves into positions of authority by meretricious displays of a certain kind of ability, our Cousin Jonathan is not likely to be so led astray. He will take hold of the best thing, come whence it may, as soon as it has been ascertained by experience to be good. The light combined engine and carriage, of which we have spoken, has been sufficiently tested to show its relative power, capability, and excellence, and the identical carriage which we examined will be at work, in the neighborhood of Bristol, within ten days from this date.

Mr. Adams has also constructed a little passenger railway illustrative of our views regarding lightness and cheapness, and singularly confirmative of an opinion we venture to express on the subject many years ago. We said that the railway system would spread into remote localities, the mode of traction being in many instances not "horse power," but the power of living horses. And so it shall, for it is the law of nature and progressive science, in defiance of the obstructions which ignorant self-complacent railway monopolists are so scandalously attempting to throw in the way of its spreading. Mr. Adams, we say, has constructed a little passenger railway, in length a mile and an eighth, by bolting one-half of a stout deal plank edgeways on to the southend pier; on two of these edge-placed planks he has fastened an iron rail 2¼ inches by ⅞th of an in. and on these rails a pony will walk or trot with a carriage holding twenty passengers to the other terminus of the rail. There are 6 of these open carriages, which will hold 120 passengers, and the entire cost of these carriages and the railway is £710. With such a fact as this before our eyes, does Mr. Glyn think that he, by his mandate, can stop the spread of railways into by-places and unaccommodated districts? Take an example:—The projected railway to St. Alban's is to be given up because Mr. Glyn says so. St. Albans is an old and populous borough, sending two members to parliament; it is surrounded by a pleasant, wealthy, and social neighborhood, the inhabitants of which have frequent occasions of visiting the metropolis—only twenty miles distant. From Watford station, on the North Western line, St Albans is about seven times farther than the length of the little southend pier railway. There is land to purchase, which destroys all analogy between the two cases, except what relates to cheapness of construction and economy in working. But suppose you multiply the cost of Southend by twenty, you will afford for £99,400 the convenience of a passenger and goods railway to the inhabitants of St. Albans. Not one capable of bearing a forty ton engine for no such railway, properly speaking, has yet been constructed; but still you will give all the conveniences of the system, and in a way satisfactory to the people.

Kennebec and Portland Railroad Company's Annual Report.

We make the following extracts from this report, which will exhibit its condition.

To the Stockholders of the Kennebec and Portland Railroad Company, at their annual meeting held on the 5th day of October, 1848, the Directors respectfully submit the following

REPORT.

At the last annual meeting of the Company, on the 27th of October, 1847, a report was submitted by the Directors, exhibiting the condition and prospects of the road at that time. But little work toward its construction had then been done. Only about 150,000 cubic yards of earth, and 4,000 of rock, had been excavated and placed in embankments. Stones had been quarried for the principal bridges, and were expected to be drawn to the places where wanted, during the succeeding winter. The whole line of the road, from its terminus in Augusta to the depot of the Portsmouth, Saco, and Portland road in Portland, including the branch to Bath, had been finally located; and contracts had been entered into for all the grading and masonry necessary in its construction. It was stated in the report then made, that it was the intention of the Directors to cause it to be completed and opened for travel from Bath to Portland, in the course of the next following year; and some portion of it at an early period in the year. Owing to causes which could not have been foreseen, and which if foreseen could not have been averted, the expectations which were then indulged have, to some extent, not been realized. * * * *

Early in the year they came to the conclusion to expend their principal means upon the divisions from Bowdoinham to North Yarmouth, and upon the branch to Bath, being a distance of about 30 miles, with a view to their completion by the first of January, 1849. And notwithstanding the severe embarrassments and delays already adverted to, a great amount of work has been accomplished; and the grading, masonry, and bridging, are so far advanced, that but little if any doubt remains, should the weather prove moderately favorable, the road from Bath to North Yarmouth may be opened before that day. A considerable portion of the distance between Brunswick and Bowdoinham has been graded, and much of the masonry completed; but owing to the necessity of a heavy rock excavation, which, from the situation and nature of the work, cannot be expedited by increased force, it is found not practicable to reach the village of Bowdoinham, at so early a day. It is believed that the road may be opened to that point as early in the ensuing spring, as the embankments can be repaired from the washing and settling, to which they are incident in the winter and spring.

The work was commenced on the Bath division, on the first day of June, 1847, when the earth was first broken; and on the Brunswick and North Yarmouth division, in August of that year. If the expections now indulged by the directors shall be realized, a period of two years will not have elapsed from the commencement of the work, a period remarkably unfavorable for railroad construction, before 30 miles of it will have been completed, and in operation; while upon other portions of it, a considerable amount of work will have been done. In view of all the circumstances connected with our enterprise, it is believed that this is as rapid advancement as could reasonably be expected by the stockholders or the public. * * * *

Early in the present year, in consequence of intimations, made to one of the directors of this company by gentlemen connected with the Atlantic and St. Lawrence road, that renewed negociations for a connection with that road, upon terms mutually beneficial to both, were desirable, and that circumstances indicated that such negociations might be successful, steps were taken to meet the directors of that road, and fresh attempts were made to agree upon some mode by which our cars and passengers might be transported over their road, without change or detention. The engineers of both companies were required to examine and report upon a plan by which the object sought for could be effected. As the subject was likely to require a considerable time, and as there was strong ground to believe that it could be accomplished, it was deemed expedient to suspend farther work upon the North Yarmouth and Portland divisions, until the result of these negociations could be ascertained. The directors were the more readily induced to this course, from the apprehension which began to be felt, that owing to the financial pressure already spoken of, the assessments would not be paid with the punctuality which was desirable. No definite arrangement with that company has yet been concluded; nor do the directors see any ground to believe that any can be concluded upon the basis which they deem indispensable, viz: that our passengers shall be carried in our cars to the depot of the roads leading west from Portland. The reasons for this were so fully stated in the last annual report, that they need not be here repeated. A brief experience will enable us to determine whether it is for the interest of this company to resume its operations, and carry its road into Portland agreeably to its charter, or to transfer its passengers and freight, at North Yarmouth, to the cars of the Atlantic and St. Lawrence company, to be landed in Portland, at the distance of about one mile from the depot of the Portsmouth, Saco and

Portland road. Before determining this grave question, the directors deem it important to have the benefit of that experience.

A large and commodious shop has been erected at Augusta, with machinery moved by water power from the dam at that place. In this, the timber for the superstructure is fitted for laying down, and is then, in large boilers made for the purpose, as far as practicable rendered indestructible, by being thoroughly steamed, and saturated with coal-tar, a method now generally used in constructing railroads in England, and which is regarded as the most approved mode known of guarding timber from decay. A large quantity of timber, crossties, sheathing for the sills, wedges, &c., has been thus prepared, and is deposited at various points along the line of the road ready to be laid down.

About 2500 tons of the rails contracted for last year, have been received; and about 800 tons more, now on the passage from England, may soon be expected to arrive. Some portion of the former has also been distributed along the road, and will be laid down permanently within a short period.

The work in every department has been done in the most thorough manner, and the directors feel no hesitation in assuring the stockholders, that the road, when completed, will bear favorable comparison in every respect whatever, with any other in the country.

Arrangements are in progress for obtaining cars, engines, and other equipments for the road. * * * *

The whole amount expended up to 30th of September last, as appears by the Treasurer's books, is $473,050 39

of which there has been paid

to contractors, for grading &c.	250,678 41
for construction, superstructure, cars, bridges, &c.	70,280 33
land damages, depot grounds, fencing, &c.	94,857 49

the balance being for office expenses, engineering, sundry materials, &c., not yet carried to the appropriate heads of expenditure.

This statement does not, however, exhibit the full amount of work actually done upon the road.

The monthly estimates of the principal engineer show that the grading and masonry done by contractors, not including the month of September last, amounted to the sum of $292,197 98.

The difference between this sum and that charged by the Treasurer as paid in cash, viz. $41,519 57, is payable in stock, and forms part of the $100,000 estimated as derivable from that source, and to what extent may be regarded as actually paid. The amount of work done in September, not payable till after the 10th inst., is estimated at about $30,000, of which 5000 is payable in stock.

Adding these sums—together $71,519 57—to the amount of expenditure before stated, $473,050 39, the result shows an amount of work actually done, and property and materials obtained, exclusive of rails, of $544,569 96, all of which has been paid for, except the estimates for September, not yet due.

* * * * * * * *

The portions omitted are of less interest to the general reader than to the shareholders, but the report of the engineer describes the plan of construction, is therefore interesting to the profession generally, and is given entire.

ENGINEER'S DEPARTMENT, K. & P. R. R.
Brunswick, Oct. 2, 1848.

REPORT.

The operations for the past year, under instructions of the board of directors, have been carried on mainly with a view to the opening of the road from North Yarmouth to Bath, and to Bowdoinham, and to working such sections between Brunswick and Augusta as will require more than one year for their completion. This work has been the grading and masonry for the road, masonry for the bridges, procuring materials for the superstructure and bridges, erecting a shop and machinery at Augusta for cutting and preparing the timber for the track and bridges, transporting the timber and iron to the line of the road, and fencing the road.

Masonry.—The masonry of the North Yarmouth and Brunswick division is completed, with the exception of a few cattle-passes and surface culverts. On the Bath division the culvert masonry is finished with slight exceptions, and the bridge masonry is in such a state of forwardness, that it can be completed by the first of November.

The abutments of the Cathance bridge will be finished by the 15th of November. The foundations of all the piers of the Androscoggin bridge at Ferry point are laid: one of the three piers is built to the height of the freshets. The caisson pier is raised to the height of low water; the remaining pier will be built immediately. The whole of this masonry can be finished by the 30th of November. The masonry at other points of the main stem is advanced, so as not to retard the working of such sections as will require more than one season for their completion.

Grading.—The grading of the North Yarmouth and Brunswick division and of the Bath division, has been conducted with a view to the completion of the road bed, so as to admit of laying the rails by the month of January. It is in the power of the contractors to finish their work, so as to fulfil our expectations in this respect, unless we should have an unusually wet season. The road bed for 19 miles of the 22¾ miles, the whole distance from North Yarmouth to Bath, is nearly completed, and can be ready for the rails in three weeks: about three miles is ballasted, and now ready to receive the superstructure.

The following table exhibits the amount of work done on the road bed, from the commencement of the work.

Brunswick, Bowdoinham and Richmond Divisions.

329,500	cubic yards of earth	excavated
4,441	"	rock "
1,893	"	bridge masonry built
1,826	"	culvert "
69	"	bank walls "

Bath Division.

205,300	cubic yards of earth	excavated
16,800	"	rock "
1,513	"	bridge masonry built
1,483	"	culvert "
800	"	riprap foundation

Richmond and Augusta Division.

194,000	cubic yards of earth	excavated
2,200	"	rock "
315	"	bridge masonry built
1,170	"	culvert "
491	"	bank walls "
3,500	"	ripraps "

North Yarmouth and Brunswick Division.

458,700	cubic yards of earth	excavated
22,400	"	rock "
3,908	"	bridge masonry built
5,058	"	culvert "

There are on the North Yarmouth and Brunswick division a steam excavator and steam drill, 528 men, 132 horses and oxen, 76 carts and 46 cars, employed on the grading of the division. There are 123,000 cubic yards of earth to be excavated, exclusive of the ballasting, and 10,000 cubic yards of rock, to prepare the road bed for the superstructure. On the Bath division there are 234 men, 41 horses and oxen, 17 carts, 11 cars; and arrangements have been made to put on, during the ensuing week, a steam drill, and as large a force as can be worked on the sixth section, in addition to the force now employed on the division. There remains to be excavated 45,000 cubic yards of earth, and 4,000 cubic yards of rock, to prepare the road bed for the superstructure.

There has been some delay in completing the embankment across Sewall's meadow in Bath, in consequence of the sinking of the ground, which consists of a deposit of soft dock mud, covered with a thin coating of peat: the ground has been thoroughly sounded to a solid bottom: about 20,000 yards have been placed in this embankment, and it is estimated to require 25,000 yards more to complete it: a sufficient force to move this quantity in three months, will be immediately placed on the section. This sinking need cause no apprehensions for the ultimate permanency of the work, as similar cases are not uncommon on the roads in New England.

Superstructure.—With a view to economy and permanency in the track, the timber will be subjected to a process calculated to preserve it from the rapid decay, which timber thus exposed undergoes. This is no new experiment; the plan has had the test of experience. For this purpose, a shop has been erected at Augusta, where all the timber is cut to dimensions, and fitted for laying down, by machinery, thereby greatly reducing the expense. The timber is then placed in boilers, and steamed, and then the steam and air are exhausted; after which it is immersed in coal tar, and other compounds, (the product of the distillation of coal in the manufacture of gas,) in which it is boiled, and then subjected to a pressure of 200 pounds per square inch; the whole process requiring eight hours.

The shop and apparatus is capable of pre-

paring 25,000 feet in 24 hours, taking the timber as it comes from the saw mill, and delivering it on the wharf, ready for laying on the track; about 450,000 feet have been prepared and delivered on the line of the road,

Iron for about 18 miles of road is also received and delivered on the line of the road, or its vicinity between North Yarmouth and Bath.

Bridges.—There are no wooden railway bridges between North Yarmouth and Brunswick. On the Bath line there are two, one over the New Meadows river, and one over the East Whisgig. The timber for these bridges is procured, and is in course of preparation and construction. A portion of the timber for the Androscoggin and Cathance bridges is also procured. All the iron for these bridges is procured, and in process of preparation. The bridges on the Bath line are to be finished by the 20th of November.

PORTLAND TO AUGUSTA.

TABLE OF GRADIENTS.
Distances in feet.
Ascending Grades. Descending Grades.

Total miles.	Total miles, Brunswick to Bath,	Portland to N. Yarmouth, N. Yarmouth to Brunswick, Brunswick to Richmond, Richmond to Augusta,		
	64·4	15		Distances. Miles.
2·	8·4 27 10,740	14·5 22,824 35,265	60,214	Level.
	15·4 23,881 60,720	19·5 25,300 4,900 7,000	14,700	0 to 17 ft. per mile.
·4	9·8		18,442	17 to 27 ft. per mile.
1·1	4·2 2,000	1,900 2,167	16,333	27 to 40 ft. per mile.
2·	7·3 5,938	22,335	10,500	0 to 17 ft. per mile.
1·4	3·3 10,500	9,100 7,044 1,200	10,800	17 to 27 ft. per mile.
1·5	6·8 7,142	8,830 11,459 5,100	21,767	27 to 40 ft. per mile.
	6· 7,980	9,700	138,163	Total Rise.
	497,430	193,147	130,50	Total Fall.
	77,129	36,70		
	64·4	15		Distances. Miles.
4·1	8·4 42· 20,105	14·5 53,377 60,214	60,214	Straight.
2·8	15·4 60,286 47,671	19·5 9,334 10,496	13,237	More than 5000.
	8·1 14,757	9,580	9,580	
	·7	1,148 2,403		4000 to 5000.
·2	3·1 988	3,323 13,726	3,323	3000 to 4000.
·3	8·1 1594	6,599 26,021	3,787 7,006	2000 to 3000.
1·	2·4 1981	1,537 3,463	2,025 5,997	1000 to 2000.

TABLE OF CURVATURE.
Distances in feet.
Radii.

Our work is in such a state of forwardness that it is in our power to have the rails laid from North Yarmouth to Brunswick by the 1st of January, with due exertions on the part of the contractors.

The preceding table exhibit the curvature and grades of the road.

All of which is respectfully submitted by

GEO. S. GREENE,
Engineer K. & P. R. R.

To the President & Directors of
the Kennebec & Portland Railroad Company.

We also give the Treasurer's report, which shows the financial condition of the company.

TREASURER'S REPORT

Receipts.

Whole amount of assessments collected to Sept. 30, 1848,		$398,105 10
Rents, interest and sundries		470 64
Bonds and bills payable and balances of sundry accounts		81,866 98
		480,442 72

Payments.

Salaries, incidental expenses and interest		11,646 21
Engineering expenses		30,212 46
Advanced on sundry accounts		6,876 68
		48,735 35
Land Damages	45,659 82	
Fence account	7,817 52	
Depot at Augusta	9,958 55	
" Brunswick	5,388 00	
" Bath	10,000 00	
" Bowdoinham	1,100 00	
" Freeport	750 00	
" Gardiner	13,650 00	
" Topsham	533 60	
		94,857 49
Paid Contractors		250,678 41
Paid on construction, superstructure, bridge, car, and lumber account &c..		70,280 33
Advances to sundry individuals to adjust land damages, and for other purposes not yet settled,		8,498 81
		473,050 39
Cash on hand	2,872 33	
Notes receivable	4,520 00	7,392 33
		$480,442 72

Respectfully submitted,
JOS. McKEEN, Treasurer.

Brunswick, Oct. 2, 1848.

Baltimore and Ohio Annual Report,

Continued from page 793.

Conduct of the Transportation.—The operations of this department have been very active during the past year, and the aggregate amount of transportation greater than that of the year preceding, although in a less proportion than the excess of the latter over that of the year before it. The business of the year just expired has been free from several of the embarrassments by which that of the previous year was affected. The increase in the stock of engines and cars has enabled the company, in general, to transport all that has been offered them, with promptness and regularity, and it is believed that no just cause of complaint has been given, although dissatisfaction may not have been wholly avoided, as it cannot well be, under any circumstances however propitious.

The entire movement upon the road, by steam and horse power together, during this year is shown as follows, in contrast with that of the year before. The tonnage embraces the materials and fuel distributed for the use of the company, which form a part of the duty done by the machinery and road, and which have amounted to 1,825,077 tons eastward, 390,296 tons westward, and 100,000 in both directions; the corresponding amounts last year being 1,871,251,—950,990, and 42,328, respectively.

	1848.	1847.	Increase.
Passengers carried 1 mile in both directions	14,244,235	12,835,856	1,408,379
Tons carried 1 mile			
Eastward	23,291,498	21,656,244	1,635,254
Westward	6,022,733	5,501,974	520,759
Both directions	713,671	452,944	260,727
Total	30,027,902	27,611,162	2,416,740

The above statements include the passengers and tons carried in the Washington branch trains upon the first 8 miles of the main stem—they are introduced into the aggregate of main stem business, as forming a part of it as well as that of the branch road.

A comparison of the preceding amounts will show an increase of 11 per cent. in the passenger and 8·7 per cent. in the tonnage of all kinds, and 12 per cent. in that for which tolls are received. Considering the extraordinary causes which stimulated the trade of the year 1847, and carried it so far ahead of 1846, it would not have been just cause of disappointment had that of 1848 even fallen considerably short of 1847 on this road, as it has done upon several other main lines in the country.

The increase of 1848 in the eastward movements of freight paying toll is 8 per ct. and in the westward 19½ per cent., showing more in the latter than former—a result very different from that of the preceding year, wherein the eastward increase was ten times as great as the westward. The miscellaneous local trade in either direction is this year 52 per cent. greater than that of last year, while that of 1847 was not much more than half of that of 1846.

The ratio of eastward to westward tonnage was 4·35 last year, and this year 3·81 to 1; being sowewhat less unequal, so that there has been more compensation received for the work done. The improved condition of the road and depots has also enabled the machinery and the other agencies of the department to operate with more efficiency and regularity. The distribution of the trade through the city has been effected with less difficulty, and in short, everything in this branch of the service has been in an improved condition.

Expenses of Transportation, Main Stem.—The aggregate charges under this head amount to $219,962 46 for the year ending, September 30th, 1848. The corresponding expenditure for the previous year was 197,134 40, showing an increase of 22,828 06. From the first sum a deduction of 4,348 12 must be made on account of increase in the stock of fuel on hand, etc., leaving the actual expenses 215,614 34. This last amount has to be compared with the corresponding amount of last year, reduced by a similar al-

lowance to 189,410 90. The real increase of the present year would then be 26,203 44 or 14 per ct. The increase of business done being 9 6 per ct. in freight and 11 in passengers, and (allowing two passengers to cost as much as one ton) upon the average 9½ per cent., it will be seen that the increase in expense exceeds that of the business, and principally on account of the article of fuel. This is in a measure due to the greater comparative consumption of wood, by engines burning it and not coal during the last year; but which will not continue, as means of suiting all the freight engines to the use of coal (Cumberland) have been applied to several of them with promise of success.

The table below compares 1847 and 1848 in detail, and the manner in which the expenses are classed will indicate the relation which they bear to the amount of business done.

	1848.	1847.	Increase.
Wages—Superintending agents and clerks	$14,728,57	12,776 16	1,952 41
Enginemen and firemen	43,921 12	38,922 49	4,998 63
Conductors & brakemen	20,897 32	18,246 09	2,651 23
Depot labor	11,428 61	9,630 27	1,798 34
Fuel—coal & wood.	70,003 84	52,936 42	17,067 42
Oil, grease and cotton waste	16,097 41	15,439 50	657 91
Horse power in Baltimore	35,195 92	35,517 78	*321 86
Miscellaneous exp..	7,689 67	5,942 19	1,747 48
Total exp. of transp.	219,962 46	197,134 40	22,828 06

* Decrease.

Horse Power.—The average number of horses employed in the city and at Mount Clare is 98, of which 69 belong to the freight and 29 to the passenger business. The wear and tear of the former continues as stated in the last annual report (p. 52) to be the greatest. The duty has, however, been less severe this year than the last. The cost of carrying passengers is 10,883 35, and of freight 24,312 57, making the aggregate 35,195 92. In 1847 the expense was 11,511 93 for passengers and 24,005 85 for freight. The decrease this year for passengers is 628 58, and for freight the increase is 306 72; total decrease 321 86.

The number of passengers carried 1 mile this year was 251,028, and last year 180,273—increase 70,755, or 39 per cent.: while the decrease in expense was 5½ per cent. The tons carried one mile this year was 347,227, (besides materials for the company's use estimated at 36,620 tons one mile,) last year it was 317,133; the increase 9½ per cent., while the increase of expense has been but 1·3 per cent. The cost per passenger per mile in the year just expired was 4·335 cts., and per ton per mile 7·002 cents—against 6·385 cents and 7·570 cents in the preceding year.

Washington Branch.

Upon this road the expenses of transportation were during the year ending this day 27,365 89, which must be increased 2,500 for increased consumption of fuel; making 29,865 89 the true expenditure for the year's operations, against 28,839 45, that of the preceding year; and showing an increase of 1,026 44 dollars in the former sum. This increase of expense is but 3½ per cent., while the increase of passenger and tonnage business together was 14¼ per cent.

On the whole, the results of the operations of this department of the service for the past year afford satisfactory evidence of efficiency and economy in its administration.

Revenue, Expenses and Trade.—Main Stem.

1. *Revenue.*—The receipts from their several sources are as follows for the year ending Sept. 30, 1848, by the side of those of the previous year:

Sources of Revenue.	1848.	1847.	Inc.* Dec.†
Passengers in main stem trains	$393,926 33	$361,546 24	*32,380 09
Passengers in Washington branch trains, carried over 8 miles of main stem	51,328 01	42,266 20	*9,061 81
Total for passengers carried	445,254 34	403,812 44	*41,441 90
Tonnage in main stem trains	700,065 75	628,523 51	*71,542 24
Do. in Washington branch trains as above.	17,146 63	18,985 97	†1,839 34
Total for tonnage transported	717,212 38	647,509 48	*69,702 90
Mail transportation in main stem trains	40,613 87	40,664 00	†50 13
Mail transportation in Washington branch trains, as above	2,508 00	2,544 00	†36 00
Total for mail transportation	43,121 87	43,208 00	†86 13
For use of cars on Winchester and Potomac railroad	4,299 09	3,922 91	376 18
For tolls collected at Harper's Ferry bridge	2,276 89	1,983 75	293 14
Rent from Philadelphia railroad company, for Pratt street depot	1,500 00	1,500 00	
Total revenue from all sources	1,213,664 57	1,101,936 58	111,727 99

The aggregate revenue is therefore $111,727 99, or 10 per cent. in advance of that of the preceding year. Of this increase about 5 8 is due to the tonnage and about 3·8 to the passenger business.

The additional revenue from tonnage has been almost equally derived from the eastward transportation of produce and coal, and from the westward carriage of merchandize.

Of the increase of receipts from passengers two-thirds has been derived from the local travel of the road, and but one-third from the western travel.

Expenses.—The cost of working the road is summed up as follows, under the foregoing heads with the addition of "General Expenses," not therein embraced, and composed of salaries, house-rent, interest, insurance, law expenses, taxes, losses by casualities, and other incidentals.

Summary Cost of Working the Road.
Main Stem.

1.	Maintenance of road,	$258,385 19
2.	do of Machinery	151,143 31
3.	Conduct of transportation,	215,614 34
4.	General expenses,	20,626 35
	Making a total amount of	645,769 19

The total expenses charged in the treasurer's accounts are 662,106 50 dolls.—more than the amount just stated by 16,337 31 dolls., which is due to materials on hand for future use and to increase in a portion of them during the year.

The gross receipts of the year being 1,213,664 57 dolls., and the actual expenses 645,769 19 dolls., the net earnings of the road were consequently 567,895 38 dolls., which is 8·11 per cent. upon the nominal capital of 7,000,000 dolls.

The expenses have been 53·2 per cent. of the entire receipts as the two stand above.—But if that share of the expenses incurred for improvements of a permanent kind, and forming no part of what is proper to be laid aside to cover depreciation, be treated as capital, then there should be deducted from the expenses above stated the sum of not less 50,000 dolls., thus reducing them so as to form but 48¾ per cent. of the gross receipts of the year.

Washington Branch.

Revenue.—The receipts of this road for the year ending Sept. 30th, 1848, were as follows:

From passengers,	194,740 20
From tonnage,	40,126 88
From mail,	10.032 00
Total receipts,	244,899 14

Expenses.—The expenses above set forth are summed up as follows:

1.	Maintenance of road	33,826 80
2.	Maintenance of machinery	16,256 47
3.	Conduct of transportation	26,865 89
3.	General expenses,	10,325 00
	Making a total of	90,274 16
	Leaving receipts amounting to	154,624 98

And the proportion of expenses to gross income would be 37 per cent., and the profits would be 9⅜ per cent. on the capital of 1,650,000 dolls.

The state's tax on passengers, amounting this year to 38,948 04 dolls., being deducted the profits of the work are thus in effect but 115.676 94 dolls. available for division among the stockholders, and making 7 per cent. on the capital. The branch has, therefore, realized this year 1 per cent. more than sufficient to relieve the main stem of any contribution towards the interest of the loan made for its construction. It will be understood that the above revenue is the share of what is earned by the Washington branch trains while running on the 31 miles of the branch proper; the earnings upon the 8 miles of the Main Stem traversed by the Washington branch trains enure to the Main Stem and are included in its revenue as seen in the tabular statement thereof. The treasurer's statement of expenses includes the state tax, and does not notice the alterations in the stock of materials. Hence the difference between the statement of his exhibit and the present one.

The state tax, as stated by the treasurer, is also somewhat different from its amount as above given, which arises from the former

showing what has been actually *paid* by the usual semi-annual instalments into the state treasury within the fiscal year, and the latter what has *accrued* from the passenger business within that period.

The whole amount of the state bonus this year will have been 49,203 63 dolls. including the proportion accruing from the share of the Main Stem in the passenger business of the Washington Branch.

Trade of the Road.--Main Stem.

Tonnage.—The aggregate movement of tonnage over the road in each direction has been stated under the head of transportation, as showing the general results of the operations of that department during the year. The following statements will exhibit the character and course of the trade in detail. In the appended table, lettered H, will be seen the chief articles of eastward, and in the table marked I, those of westward transportation. These tables indicate only what arrives at and departs from Baltimore, which forms, of course, the great body of the trade, the local and intermediate transit being comparatively unimportant. The synopsis of eastward transportation contained in table H goes back to the opening of the road in 1831, and is very interesting in the view it affords of the progressive advance of the import trade of the city from the interior, by this avenue. The table I, begins with the present year only, but should be continued hereafter, that a similar view may be presented of the return trade, from year to year.

Eastward Trade.

General Produce.—It will be seen that the quantity of flour, grain, and meal this year is less than that of the last by 163,760 barrels of the former or 28 per cent, and 5592 tons or 60 per cent. of the latter. The increase in tobacco has, however, been 1422 hogsheads or 35 per cent., and of provisions 881 tons or 25 per cent.; of live stock the increase has been 48 per cent. or 3,969 tons; in whiskey the increase 411 tons or 60 per cent.; in lard and butter 263 tons or 18 per cent. Iron has diminished 1529 tons or 17 per cent. Granite, lime and soapstone have increased but 51 tons, being nearly stationary and miscellaneous produce such as leather, bark, fire-wood, fire-brick, iron ore, etc. have increased 1715 tons or 28 per cent.

Coal.—The amount of coal brought to Baltimore this year has been 66,289 tons, being 16,030 tons, or 32 per cent. more than the last. The means of transportation were adequate to a larger trade in this article than offered; the diminution of the demand,—and various other causes which must be of temporary continuance, having checked the operations of the mining companies of Alleghany county.

On the whole, the eastward tonnage arriving in Baltimore this year has fallen 1041 tons short of last year, or about $\frac{1}{8}$ of 1 per cent., a reduction which, but for the coal trade, would have been much more considerable.

Westward Trade.—No detailed comparison with the previous year in the various articles of this trade can be made at this time, although that can be done in the next annual report and afterwards. It may be stated, however, in the general, that there has been an increase of about 28 per cent. in the aggregate amount of merchandise of all kinds forwarded from Baltimore. The increase of transportation in that direction is more to be desired than in the opposite one, whether we look at its effects upon the economy of transportation, or upon the revenue of the company and the trade of the city.

Passengers.—The number of passengers carried in the cars of the Main Stem during the past year from each station on the road, in each direction, is shown in the appended, table, lettered J, wherein is also exhibited the western travel to and from Pittsburg and Wheeling, Philadelphia and Baltimore and the southern travel through Washington, as well as the local travel of the Washington road.

The aggregate in the Main Stem cars will be seen to be . . .	160,974
While in the previous year it was	136,921
Increase, (18 per cent., or)	24,053

Of the entire number of 44,538½ western passengers, 19,071½ have started from or stopped in Baltimore, and 25,467 have come from or gone to Philadelphia. Making proper allowances for the travellers, who starting from or bound to Philadelphia, nevertheless halt in Baltimore, and for those doing the same by Baltimore, have yet come from or were going to Philadelphia, these facts will show how much the value of the Baltimore and Ohio railroad, as a passenger line depends upon its character as a general thoroughfare between the Atlantic and western cities, independent of the travel proper to Baltimore alone. It will be seen that the travel through Pittsburg numbers 29,451 passengers, and through Wheeling 15,087, or about 2 of the former to 1 of the latter.

The revenue from the several classes of passengers is relatively as follows:

From western passengers to and from Pittsburg and Wheeling (per cent. 46·76,) . .	$207,964 50
From southern passengers to and from Washington, (per cent. 1·15,) . . .	5,124 20
From other or local Washington travel, (p. ct. 10·38,) .	40,203 21
From local travel proper to Main Stem, (p. ct. 41.71,) .	185,961 83
Revenue from pas. before stated	$445,254 34

Washington Branch.

Tonnage.—This in the direction of Washington, consists of merchandise to that city and limestone, etc. to the iron works on the line of the branch or that of the Annapolis railroad, and of cotton, etc. to the factories,—towards Baltimore manufactured goods from these establishments and of iron ore, iron etc.

The number of tons hauled 1 mile upon the branch road during the past year was,—eastwardly 610,078 and westwardly 629,679,—total 1,239,657 tons 1 mile, for which tolls were received. Adding to this the distribution of the company's fuel and materials,—amounting to 67,729 tons 1 mile,—the total movement will appear to be 1,307,486 tons 1 mile. This is an increase of 212,664 tons 1 mile, or 20 per cent. over the previous year.

The revenue from freight has been $1,596 26, or 4·1 per cent. greater than in 1847—about the same increase as last year.

Passengers.—The total number carried during the past year has been 176,196 for various distances, equivalent to 5,195,301 carried 1 mile. The southern passengers numbered 16,015 over the whole road, equivalent to 624,586 1 mile; and making about one-eighth of the whole number carried 1 mile, a smaller proportion than obtained last year. The revenue from passengers this year has been $35,338 21, or 22 per cent. more than last year, which may in a measure be due to the addition to the fare upon local travel, which constitutes seven-eighths of the whole passenger business of the road and to the increase in which the improvement in the revenue of the year has been mainly owing.

General Remarks upon the Working of the Road.

The appended table, lettered K, in continuation of the corresponding table in the appendix of the last annual report (p. 63), will show in the most condensed form the general results above set forth, with other suitable statements and deductions. A less detailed table, letter L, presents a similar exhibit of the working of the Washington branch. The table M is also annexed in continuation of the corresponding synopsis attached to the last annual report, and showing the business, revenue, expenses and dividends of the company for each year since the opening of the road in 1830.

The aggregate profits of the company to the present date, will appear to have been $3,589,185. Of this 1,089,138 have been paid in dividends to the stockholders, and 2,500,067 have been reinvested in the work, whose value has been increased fully to that amount. The nominal capital of the company, of 7,000,000, stands then for a real capital of at least 9,500,067. That this is truly so is demonstrated by the fact that the excess over the current expenses of the year just expired is within a small fraction of the legal interest of 6 per cent. upon the latter amount This difference between the apparent and real capital in the road has been put into the work in the form of—iron for the road west of Harper's Ferry; new track east of that place—locomotives and cars; and for very many permanent and valuable improvements in bridges, depot buildings and workshops, water stations, siding tracks, and other appendages to the road; and, with a view to the future completion of the road to Ohio,—in extensive surveys of nearly the whole country between Cumberland and that river, leaving but a slight expense to be met in finally locating the road upon the route that may be preferred.

The table lettered N in the appendix presents a similar comparison to that of the corresponding table in the last annual report, of the relative cost of working this road in contrast with six other leading lines in the Uni-

ted States. A comparison so creditable to the Baltimore and Ohio railroad, cannot well fail to lead to the conviction that its operations have been judiciousiy conducted. Indeed if this road be compared with any other in the country of similar length and character, it will be found that upon none do the trains run with more regularity, with fewer casualities, and with more attention to the wants and wishes of the public.

II.—EXTENSION OF THE ROAD.

West of Cumberland.

Since July, 1847, there have been three parties of engineers constantly in the field, and the result of the operations to this date is briefly summed up as follows :

The entire country botween the completed road, at Cumberland and at the mouth of Patterson's creek eight miles below, and the Cheat river, nealy 80 miles westward, and embracing all the most difficult ground in the mountain region of the Alleghanies, has been most carefully surveyed upon a great number of different lines, which remain to be compared with each other.

The country between Wheeling and the mouth of Piles Fork of Buffalo creek, some 60 miles eastward of Wheeling, has been surveyed with great minuteness and care upon the several lines by Fish creek and Grave creek, which require to be compared before the route between those points can be selected, under rhe law of Virginin and the agreement with Wheeling. The details of these last surveys have been very complex and the work, of necessity, has been extremely elaborate and has occupied an unusual length of time. The immediate transfer, to other field duties, of the parties by whom these suaveys were made, has very much kept back the preparation of all the materials necessary for the report to be made upon this important subject.

Two of the parties above referred to are now engaged in the country west of Cheat river, and the third one will shortly be ready to remove thither.

By the force of engineers now inthe field the part of the line, as yet only known from reconnoissance, between Cheat river and the mouth of Piles Fork, will have been instrumentally surveyed before the close of the present year; so as to exhibit the length and and other principal particulars of the entire route to the Ohio river, and so as to permit a choice to be made of the line for the whole distance. Before placing the road under contract, most of the line upon the route which may be preferred would have to be retraced; which can be done at an early period after instructians for a final location may be given.

The company's agents for the right of way have been actively engaged in their dnties, and have, in general, been successful in obtaining the privilege of locating the road, upon reasonable terms from the land proprietors.

East of Mount Clare.

The branch road to the south side of the harbor at Locust Point has been in progress of construction since April last. The graduation is very nearly completed, the building of the wharf is far advanced, and the laying of the rails has peen commenced. The road may be expected to be opened before the close of the year. By this important addition to the company's works, the operations of the transportation department will be most materially facilitated, the city be relieved from interruption to its general business on the line of the streets now traversed by the heavy tonnage hereafter to be taken to its new depot on tide-water—the tax on those articles will be diminished, greatly to its encouragement and beneficial influence upon the general commercial interests of the city—and other happy effects will ensue which will become apparent on the completion and successful use of the branch road.

All of which is respectfully submitted.

BENJ. H. LATHROBE,
Chief Engineer,—acting as gen. superintend.

We omit the tabular statements showing the performance and repairs of the locomotives, repairs of cars, and those giving the details of the traffic;—but give the table K, which gives a concise view of the expenses of each department of the business, from which comparisons may be made with other roads and thus each may learn economy.

TABLE K.

OPERATIONS.	Passengers.		Tonnage.		Total.
Miles run by locomotives,	215,788		698,905		914,693
Carried 1 mile by steam,	13,993,207		27,365,302		
Carried 1 mile by horses,	251,028		347,227		
Carried 1 mile by both,	14,244,235		27,712,529		
EXPENSES.		Cts. pr. P. pr. m.		Cts. pr. T. pr. m.	
Horse power on streets,	10,883 35	4·335	24,312 57	7·002	35,195 92
Motive Power Expenses.		Cts. pr P. pr. m.		Cts. pr. T. pr. m.	
Steam power, viz:					
Repairs of engines and tenders	11,799 28	.090	46,102 48	·171	57,901 76
Fuel.					
17,718¼ c. wood 36,632 78					
12,745 t. coal, ... 18,458 00	22,267 76	.172	43,387 96	·160	65,655 72
Labor, preparing, etc., ... 10,564 94					
Oil, 10,226 gallons,	2,100 70	·016	8,118 98	·030	10,219 68
Cotton waste, 17,326 pounds,	216 72	·002	633 58	·002	850 30
Wages, enginemen, and firemen,	9,010 27	·069	34,910 85	·130	43.921 12
Total steam power expenses,	45,391 73	·350	133,153 85	·493	178,548 58
Car Expenses.					
Repairs of cars,	24,038 13	·185	69,203 42	·256	93,241 55
Oil, 3,216 gallons; tallow, 21,409 lbs.,	1,256 86	·010	3,770 57	·014	5,027 43
Wages of conductors and breakmen,	7,241 58	·056	13,655 74	·051	20,897 32
Total car expenses,	32,536 57	·251	86,629 73	·321	119,166 30
Road Expenses.					
Repairs of railway,	41,074 67	·294	123,224 00	·450	164,298 67
Repairs of bridges,	2,551 26	·018	7,653 78	·028	10,205 04
Repairs of depots,	3,690 78	·026	11,072 35	·041	14,763 13
Repairs of water stations,	754 61	·005	2,263 84	·008	3,018 45
Pumping water,	976 77	·007	2,930 32	·011	3.907 09
Watching bridges,	2,026 31	·015	6,078 95	·022	8,105 26
Total road expenses,	51,074 40	·365	153,223 24	·560	204,297 64
General Expenses.					
Pay of agents and clerks,	2,945 71	·023	11,782 86	·043	14,728 57
Pay of depot labor,	2,285 72	·017	9,142 89	·034	11,428 61
Miscellaneous,	1,537 93	·012	6,151 74	·023	7,689 67
Losses by fire,	804 52	·006	3,218 09	·012	4,022 61
Salaries, office rent legal expenses taxes insurance, etc.,	3,320 75	·026	13,282 99	·049	16,603 74
Total general expenses,	10,894 63	·084	43,578 57	·161	54,473 20
Grand total, exclusive of horse power,	139,900 33	1·080	416,585 39	1,543	556 485 72
Grand total, inclusive of horse power,	$150,783 68	1·142	$440,897 96	1·613	$591,681 64

In running the above 698,905 miles, the tonnage trains hauled materials and fuel for the company's use, equivalent to 2,278,753 tons, one mile by steam. Adding this tonnage for which no charge is made, to the 27,365,302 tons (by steam) which yielded revenue, we have a total of 29,644,055 tons one mile by steam power. This divided by the number of miles run with freight, will make an average of 42 41 tons of freight to each locomotive and train—which is an increase of 1·13 tons, or 2¾ per cent. upon last year.

The average number of passengers in each train has been 61, which is 26 less than last year. The occasion of this reduction has been the additional number of miles run by the new night train placed upon the road in March last.

The average charge per ton per mile on freight exclusive of coal 3·441 cts.

The average charge per ton per m. on freight, inclusive of coal 2·589 cts.

The average charge per passenger per mile . . . . 3·126 cts.

The average cost of repairs and renewals of engines p. m. run 6·330 cts.

The average cost of running the trains of both kinds, inclusive of horse power in Baltimore 64·686 cts.

The average cost of same exclusive of horse power, . . 60 839 cts.

The expenditures have been divided between the passenger and tonnage business—for the motive power and cars, by separate accounts kept of them as they accrued, for the road expenses, by an estimate of the gross weight of the two kinds of trains compounded with the miles run by each, and allowing

double wear and tear per ton to the passenger trains on account of their greater speed; and for the general expenses, by the relative number of tons of passengers and freight carried one mile, allowing the transportation of two passengers to cost as much as that of one ton It must be noted that the tons and passengers carried one mile as above shown, *include all those carried over the first eight miles of the Main Stem in the Washington branch trains.* Yet as the cost of *steam motive power, of cars and general expenses* for those trains are all borne by the Washington branch, and form therefore, no part of the expenses above stated under those heads, the tons and passengers carried by the branch trains are taken out in calculating the cost per ton per mile for all but the *road* expenses which are borne altogether by the Main Stem.

The number of passengers and tons on the Main Stem, viz., 290,098 passengers and 271,252 tons, stated on page 8 of the report of the president and directors, is that carried in the *Main Stem cars* on the *Main Stem*,—and in the *Washington branch cars*, on the first eight miles of the Main Stem.

There have been 32,919 passengers, and 879,380 tons carried one mile by the company's cars and engines upon the mine railroads above Cumberland, and from which revenue has been received, (besides 150,015 tons of lumber and coal for the company's use) the cost of which is a part of the above expenses. If these passengers and (freight paying) tons be added to the aggregate of the same previously stated, they will reduce the total cost, inclusive of horse power, to 1·139 per passenger, and 1·563 per ton per mile.

The number of tons carried one mile in this company's cars on the Winchester and Potomac railroad, for the year has been 520,759.

TABLE L.

Condensed Statement of the Operations of the Washington road for the year ending September 30th 1848.

Miles run by passenger trains,	88,570
Miles run by tonnage trains,	36,216
Aggregate number of miles run by locomotives with trains	124,786
Number of passengers carried one mile,	5,195,301
Number of tons carried 1 mile,	1,239,757
Total cost of conveying Passengers and Mails,	52,472 15
Total cost of conveying tonnage,	27,477 01
Aggregate cost of working the road.	79,949 16
Cost per passenger per mile,	1·010 cts.
Cost per ton per mile,	2·216 cts.
Average number of passengers in each train,	59
Average number of tons in each train	34
Average cost for repairs of locomotives per mile, run with trains,	2·47 cts.

The above tons and passengers carried 1 mile include those carried in the Washington branch trains, upon the first eight miles of the main stem, and which also forms a part of the tons and passengers of table K, as explained in the notes to that table. In the Washington branch, table H, appended to the last annual report (p. 65.), the corresponding numbers represent only the tons and passengers carried on the 31 miles of the branch proper. In comparing these two tables then, this must be noted.

Steamship California.

The following description of this beautiful ship, designed for, and now engaged in, the transportation of the U. S. mail to California and Oregon, is from the N. Y. Tribune of 9th October. This is rather a late date to republish it in the Journal, but absence from our post has prevented its being done at an earlier period; therefore, as we desire to put on record a description of the *first* steamboat built expressly for the *Pacific*, that it may be compared *ten* years hence with the steamboats of *that* period—as we anticipate an equal improvement in them as there has been in the steamboats on the *Hudson river*, within a similar period.

We had an opportunity of examining the vessel and machinery, which do honor to the gentlemen who built them—and they will, we have no doubt, be found equal to the requirements of them. The Tribune says:

The steamship California, Capt. Forbes, sailed Friday at 12 o'clock for California and Oregon. The California is the first of a line of three steamers to run between Panama and Oregon city, and to carry the U. S. mails. It is a design of Messrs. Howland & Aspinwall, who are establishing this line, to have the second ship ready to sail by the 1st of November and the third by the 1st of December. A line will soon be established to run in connection with this, either from New York or New Orleans to Chagres via Havana, when it is expected that passengers from this city will be able to reach San Francisco, in Californta, in 30 to 35 days. They hope to run from here to Chagres in ten days, cross the Isthmus (50 miles by canoe and 20 by land) in three days, and then run by steamer to San Francisco in 18 to 20 days more.

The California is the first steamer to bear the American flag to the Pacific Ocean, and we have no doubt but this enterprise will form the nucleus of what in a comparatively short time will grow into a mighty commerce.

The California is a ship of 1,100 tons burden, with 200 feet keel, 34 feet beam, and 20 feet depth of hold. She is one of the most staunch built vessels we ever saw—perhaps the strongest ever built in American waters. She draws 14 feet water—has an upright stem and no bowsprit. William H. Webb was the builder. Her engine is from the "Novelty Works" of Messrs. Stillman, Allen & Co. It is a "Side Lever" of 250 horse power, (and may be safely worked up to 300,) with 17-inch cylinder and 8 feet stroke. The steamer has accommodations for 50 to 60 passengers in the first cabin, and 100 to 150 in the stearage or forward cabin. After the complete establishment of the line from here to Oregon city, passengers will brobably be taken in the state rooms for $300 or $350, and emigrants in the forward cabin for about half that sum. The ship has over 500 tons of coal on board, and takes out provisions enough to last one year. She takes along, also, a complete set of spare machinery.

Capt. Forbes will touch at Rio Janeiro, Callao, Panama, one or two ports in Central America and the West Coast of Mexico, and thence sail to San Francisco and Oregon city, taking out mails to our squadrons on the Brazil and Pacific stations. Several passengers will leave here in time to meet the California at Panama as she comes round Cape Horn, and take passage in her for California and Oregon.

One great advantage this route will afford over the land route is that it will present facilities to emigrants during the cold as well as warm season, while experience has shown that it is extremely dangerous to attempt to cross the mountains during the winter.

A company of invited guests numbering perhaps 100 or more, and including several ladies, went down the Bay a short distance in the California. She sailed from opposite Bedlow's Island at 12 o'clock. The day was as fair as the ladies on board the noble ship, and she glided so gracefully and quietly through the smooth surface that there was scarcely a perceptible jar to be felt in any part of her, notwithstanding her machinery was entirely new. With about 10 inches of steam she run from Bedlow's Island to Light Ship, 24 miles, in 2 hours and 17 minutes, against a flood tide which is equivalent to about 4 miles, so that in fair sailing she would have made about 12 miles per hour.

Her performance on this occasion was regarded by the gentlemen on board as entirely satisfactory. When in the vicinity of Sandy Hook the guests sat down to a beautiful repast, to which they did ample justice. Insurance companies, Mr. Aspinwall, one of the proprietors of the line, Capt. Skiddy, the government Inspectors under whose supervision the boats of this line are being built, J. Quinn Thornton, Chief Justice of the Supreme Court of Oregon under the Provisiona Government, and we believe now a judge that Territory by the appointment of President Polk; Mr. Townsend, formerly of the *Express*, and others. After the removal of the cloth, sentiments were given and responded to with great good feeling and hilarity. Wit and wine equally sparkling passed round the board till the guests were summoned on deck to pass on board the steamer *Orus*, which by previous arrangement was to bring the party back to the city. Among the speakers were Messrs. Townsend, Blunt, Thornton and others.

After individually giving Capt. Forbes a shake of the hand and a "God bless you," the party passed on board the Orus, and between 4 and 5 o'clock, after giving three times three for "Capt. Forbes and the California line," the boats parted, the California seaward and the Orus toward New York, and the Pioneer steamer, with her noble Commander, were soon lost in the distance. Between 6 and 7 o'clock the Orus landed her passengers at the foot of Fulton street, full of delight with the day's excursion and hope for the prosperity of Capt. Forbes and the California.

Capt. F. is well known here as the worthy and able commander, for eight or nine years past, of the steamer *John Potter*, running between this city and Amboy. He has, by his own industry and perseverance, raised himself from an apprentice in a ship yard, and then a common sailor, to the command of a national ship. Success attend him.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

JAMES HERRON, *Civil Engineer,*
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.

MODELS of this Track, on the most improved plans, may be seen at the Engineer's Office of the New York and Erie Railroad.

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.
CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

TO CONTRACTORS.

OFFICE NASHVILLE & CHATTANOOGA R.R. Co.
Nashville, 9th November, 1848.

PROPOSALS WILL BE RECEIVED AT this office on 20th December next, for the Graduation and Masonry of forty miles of road, viz: twenty miles next to Nashville, ten miles crossing the Barran fork of Duck river in Bedford county, Tennessee, and ten miles on the northwest side of Tennesee river, in Jackson county, Alabama.

Profiles and plans may be seen at this office after 12th December. By order of the board.
C. F. M. GARNETT,
Chief Engineer.

N. B. Twenty-five miles of road (including the Tunnel,) and six miles heavy mountain work are under contract. Seven Hundred Laborers are wanted by the Contractors. 5t*48

☞ **NOTICE.** ☜
RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.
1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Utica.....	1 P.M.	7½ P.M.	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M.	5 A.M.
Pass.....	Auburn....	6½ P.M.	1 A.M.	7 A.M.
Pass.....	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M....	6 P.M.
Going east.		**1st train.**	**2d train.**	**3d train.**
Leaves....	Buffalo....	7½ A.M.	2 P.M.	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M.	1 A.M.	6 A.M.
Pass.....	Syracuse...	8½ P.M.	3½ A.M.	8 A.M.
Pass.....	Utica.....	12 M.N.	7 A.M.	11½ A.M.
Arrives at.	Albany....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames.* and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of
RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES
Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

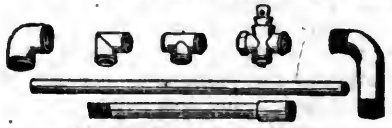
It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.
WELDED WROUGHT IRON TUBES
From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by JOHN W. LAWRENCE,
142 Front street, New York.
☞ Orders for the above will be received and promptly attended to at this office. 32 1y

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address
JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by
IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

JAMES LAURIE, *Civil Engineer.*
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.
October 14, 1848. 6m*

RAILROAD IRON.

THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to
COOPER & HEWITT, Agents,
17 Burling Slip, New York.
October 30th, 1848.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.
Dec. 25, 1847.—1y.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON--SHEET IRON--

BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 3w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at

39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

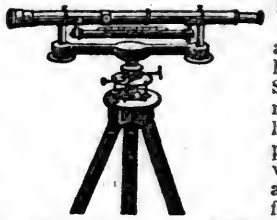
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

RAILROAD IRON.

THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.
New York, October 25, 1848. tf

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.



THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS. — THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co., March 12, 1848. 1lt

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.




This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.



This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil)..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons..... $5 00 per hhd.
On molasses and oil..... $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.


SUMMER ARRANGEMENT.


United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE:

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the


Trains will run as follows:


Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

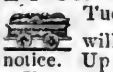
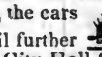
Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD


CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars

will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c., to White Plains 50c. 25tf

NORWICH AND WORCESTER RAILRoad. Winter Arrangement.—1848.


Accommodation Trains

daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 2½ p. m.

Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, JR., Sup't.

BOSTON AND MAINE RAILROAD.


Winter Arrangement.

Commencing Nov. 13, 1848.

Trains leave Boston as follows, viz: For Portland at 7 A.M. and 2½ P.M.

Great Falls at 7 a.m., 2½ and 3½ p.m.

Haverhill at 7 and 11½ a.m., 2½, 3½ and 5 p.m.

Lawrence, at 7, 9, 11½ a.m., 2½, 3½, 5, 6 p.m.

Reading 7, 9 & 11½ a.m., 2½, 3½, 5, 6, 7½ & 10 p.m

Trains leave for Boston as follows, viz: From Portland at 7½ a.m., and 3 p.m.

Great Falls at 6½ and 9½ a.m., and 4½ p.m.

Haverhill at 7, 8½ and 11 a.m., 3 and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6½, 7, 7½, 9½, 11½ a.m., 1½, 3½, 7½, 9, p.m.

MEDFORD BRANCH TRAINS.

From Medford at 6½, 8, 10½, a.m., 2, 4, 6, 9 p.m.

From Boston at 7½, 9½ a. m., 12½ 2½, 5½, 6½, 10 p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, Nov. 7, 1848.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD.

MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NEW YORK & PHILADELPHIA.

NEW JERSEY RAILROAD & TRANSPORTATION CO.—

6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11½ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily..... $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price,
Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT.—For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....32 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, Sup't.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgotten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.

September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS FOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic atmost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

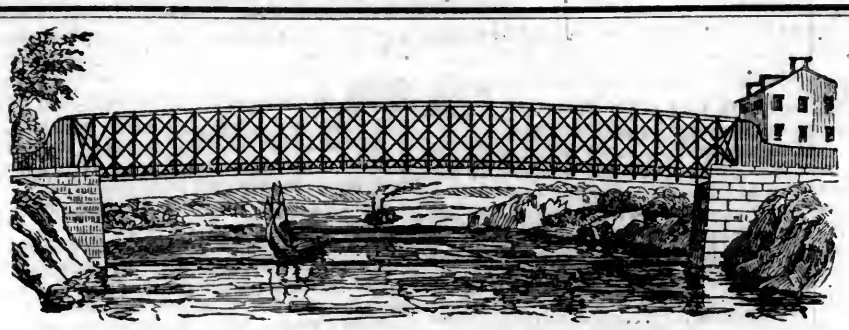
RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.



RIDER'S PATENT IRON BRIDGE.

THE RIDER IRON BRIDGE having now been fully tested on the Harlem Railroad, by constant use for about eighteen months, and found to answer the full expectations of its most sanguine friends, is now offered to the public with the utmost confidence as to its great utility over any other Bridge now known.

The plan of this Bridge is to use the iron so as to obtain its greatest longitudinal strength, and at the same time is so arranged as to secure the combined principles of the *Arch*, *Suspension* and *Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

THE RIDER IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Rail Road or other purposes, made under the above Patent, at short notice, and at prices far *more economical* than the best wood structure, and on *certain conditions*, the first cost may be made the same as wood.

Models, and pamphlets giving full descriptions of the RIDER BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, **74** BROADWAY, *up stairs*, or of W. RIDER & BROTHERS, **58** *Liberty Street*, where terms of contract will be made known, and where orders are solicited.

M. M. WHITE,
Agent for the Company.

November 25, 1848.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
ly10 near Third, Philadelphia.

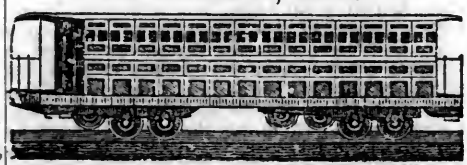
RAILROAD SCALES.---THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
ly25 Philadelphia, Pa.

CAR MANUFACTORY,
CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, October 2, 1848. 41tf

RAILROAD IRON.

THE MOUNT SAVAGE IRON WORKS, Allegheny County, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron.—Communications addressed to either of the subscribers will have prompt attention.

J. F. WINSLOW, President
Mount Savage Iron Co., Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md

November 6, 1848.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

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